

KV-X2132U

RM-689

SONY. SERVICE MANUAL


UK Model
Chassis No. SCC-D46A-A

CORRECTION-1

Correct the service manual as shown below
File the correction with the service manual.

 : indicates corrected portion (See page 58)

SECTION 6 EXPLODED VIEWS

INCORRECT		CORRECT	
18	SPEAKER	18	1-544-525-11  SPEAKER



9-964-507-91

Sony Corporation
TV Group

English
91JE1819-1
Printed in Japan
© 1991. 10

KV-X2131D

RM-689

SERVICE MANUAL

AEP Model
Chassis No. SCC-D51A-A



AE-1B CHASSIS

Note: The service manual for RM-689 has been issued separately.

MODELS OF THE SAME SERIES

KV-X2131D	

SPECIFICATIONS

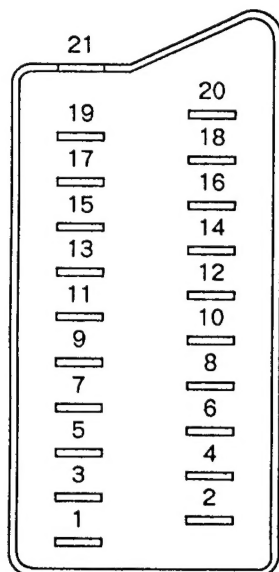
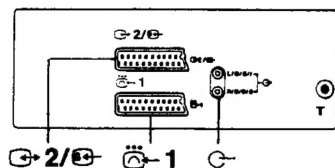
Television system	B/G/H	Sound output	15 W + 15 W (music power)
Color system	PAL, SECAM, NTSC3.58, NTSC4.43	Power consumption	87 Wh
Channel coverage	VHF : E2-E12 UHF : 21-69 CABLE : S1-S41	Dimensions	Approx. 530x438x473 mm (w/h/d)
Picture tube	Trinitron tube Approx. 54.5 cm (21 inches) (Approx. 51 cm picture measured diagonally 110-degree deflection)	Weight	Approx. 24.5 kg
Inputs	<p>1 21-pin connector : CENELEC standard including RGB input.</p> <p>2 21-pin connector : including S video input</p> <p>3 Video, Audio : phono jack.</p>		
Outputs	<p>21-pin connector : CENELEC standard</p> <p>Headphones jack : stereo minijack</p> <p>External speaker terminals : 2-pin DIN</p> <p>Audio output jacks : phono jack (output dependent upon TV settings)</p>		
		Supplied accessories	RM-689 Remote Commander (1) IEC designation R6 batteries (2)

Design and specifications are subject to change without notice.

TRINITRON® COLOUR TV
SONY®



21 pin connector (G-1, G-2)



Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5-12 V): Part mode Low state (0-2 V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V±3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	-	Red input	0.7V±3dB, 75ohms, positive
	-	○	(S signal) chroma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1-3 V) Low state (0-0.4 V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
	○	-	Video input	1 V±3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
20	-	○	Video input/Y (S signal)	1 V±3dB, 75ohms, positive Sync: 0.3V (-3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open)

* at 20 Hz-20 kHz

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!


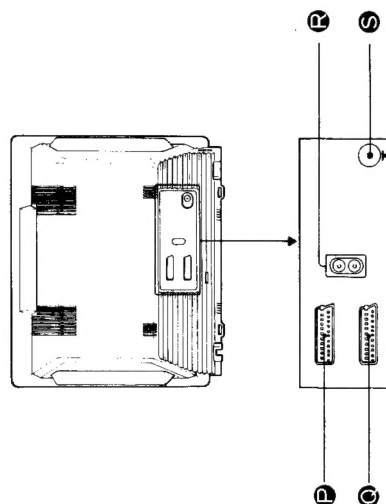
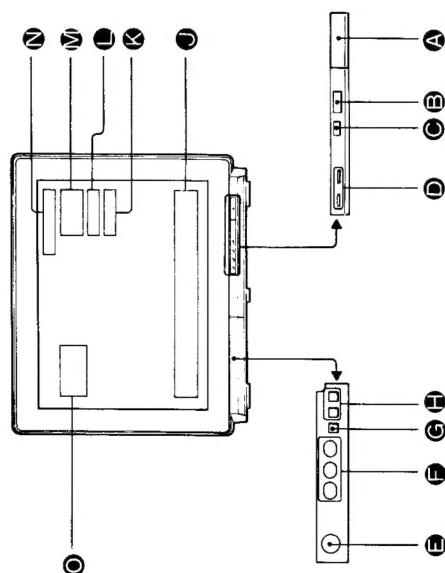
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1. GENERAL		
1-1.	Function of Controls.....	4
1-2.	To Preset Channels.....	6
1-3.	Viewing Teletext.....	7
1-4.	Operating Other Equipment.....	7
1-5.	Connecting Other Equipment.....	8
1-6.	Receivable Channels and Channel Display.....	8
2. DISASSEMBLY		
2-1.	Rear Cover Removal.....	9
2-2.	Chassis Assmby Removal.....	9
2-3.	A and J1 Boards Removal.....	9
2-4.	B and V Boards Removal.....	10
2-5.	Service Position.....	10
2-6.	Picture Tube Removal.....	11
3. SET-UP ADJUSTMENTS		
3-1.	Beam Landing.....	12
3-2.	Convergence.....	13
3-3.	Focus.....	14
3-4.	White Balance.....	15
4. CIRCUIT ADJUSTMENTS		
4-1.	A Board Adjustment.....	16
4-2.	B Board Adjustments.....	16
4-3.	D Board Adjustments.....	17
4-4.	J1 Board Adjustments.....	17
4-5.	V Board Adjustments.....	18
4-6.	Secondary Adjustment.....	19
5. DIAGRAMS		
5-1.	Block Diagram.....	21
5-2.	Circuit Boards Location.....	26
5-3.	Schematic Diagrams and Printed Wiring Boards.....	28
5-4.	Semiconductors.....	55
6. EXPLODED VIEWS		
6-1.	Chassis.....	56
6-2.	Picture Tube.....	57
7. ELECTRICAL PARTS LIST		58

1-1. FUNCTION OF CONTROLS



A Power Switch ①

Use it to switch the set on and off. When you switch the set on, the programme number of the station tuned in will be indicated in the on-screen display  for some seconds. In case of short breaks of operation, you can switch the set on and off using the Remote Commander (See »CONTROLS ON THE REMOTE COMMANDER«).

See "CONTROLS ON THE REMOTE COMMANDER").

 Standby/Response indicator

This indicator lights up when the TV set is in standby mode and it flashes each time the set receives signals from the Remote Commander.

During bilingual programmes one of the two indicators lights up, depending upon the selected channel **A** or **B**. When stereo programmes are broadcast both indicators light up. (See »CONTROLS ON THE REMOTE COMMANDER«).

The jacks and the control panel are situated behind a cover. Please press the arrow marking on the cover to open it.

Connect only stereo headphones.

input jacks

Video input jack (phono jack)  (yellow)

Audio input jacks (phono jacks) L/G/S/I and R/D/D/D  (red and white).

Use this button to select either the channel select mode or the \odot input mode.

➤ **Adjustment buttons** 7) Select at first the item to be adjusted using the Mode select button **C** (P: channel select mode), **Δ** (volume) or **G** (input mode), then adjust the item by pressing the + or - button.

You can also use these buttons to reset the picture and sound adjustments to the factory-set levels. For this purpose press both buttons simultaneously.

When you repeatedly press button on the Remote Commander, the following information will be indicated on the screen in turn.

① contrast, ② tone, ③ colour, ☆ brightness, ✎ hue (only for NTSC), ♪ bass, ♪ treble or ▢ balance and the respective (NTSC), ♪ bass, ♪ treble or ▢ balance and the respective levels; as well as ⏏ mute, → ← reset, ⏏ space sound and ▢ loudness indications, when the respective buttons are pressed.

When you press button  on the Remote Commander, the following information will be indicated on the screen:

Channel number

Q-1, Q-2, Q-3;

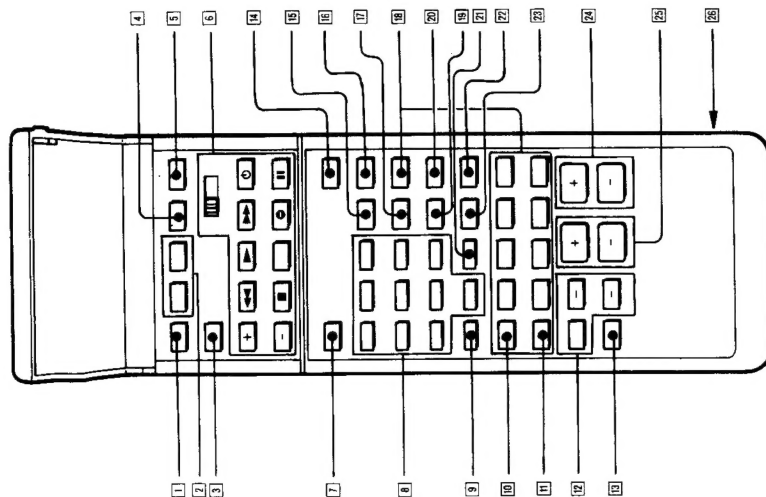
● **AV output indication; 1** , **2** , **3**  or **TV**  (see CONTROLS ON THE REMOTE COMMANDER*).

P Euro-AV-connector 21-pin  2/3- For connecting a VTR, 8 mm video camera recorder, a video disc player or in general devices with an S-Video-output.

For connecting a VTR, a computer etc, with RGB output.

For connecting audio equipment, e.g. an amplifier, so that the sound will be output at the audio equipment. In this case the volume is adjustable on the TV set.

ON THE REMOTE COMMANDER



On the set there is a Remote Control detector (15), which receives the signals of the Remote Commander.

1 **TV-mode** Used for selecting the Preset mode. See "TO PRESET CHANNELS".

2 **Tuning +/- buttons**
a) Preset mode: Used for tuning in stations in the Automatic Station Search. See "TO PRESET CHANNELS".
b) TV-mode: Used for fine-tuning a station. See "ADDITIONAL FUNCTIONS".

3 **Clear button (Clear)**
Used for clearing programme positions, so that the position will be skipped when the PROG +/- buttons (24) are pressed. See "TO PRESET CHANNELS".

4 **Store button:** Used for storing channels. See "TO PRESET CHANNELS".

5 **TV-system-select-button**
This button has no function.

6 **Video selector and video operation buttons**
Used for operating Sony video equipment. For details see "CONNECTING OTHER EQUIPMENT".

7 **Mute button**
By pressing this button the sound of the set will be switched off and by pressing it once more the sound will be restored.

8 **Number buttons**
a) Used to select programme positions or to input channel numbers (in the preset mode).
b) If the set is in the standby mode, press one of the number buttons to switch it on.
c) After pressing the Output select button (17) the buttons 1-3 can be used to select the different Output connectors.

9 **+/- Button**
In case of two digit numbers, press first this button and then the two respective number buttons (8).

10 **Button for On-screen display**
By pressing this button information about the station tuned-in will be indicated on the screen. The indications will disappear after some seconds with the exception of the programme number, which will stay on the screen until the button is pressed once again.

11 **Time button**
In TV-mode: If teletext service is broadcast on the selected channel, press this button to display the current time on the screen and once again to make it disappear.

12 **+/- Buttons for picture and sound adjustments**

a) **TV-mode:**
The picture and sound adjustments are stored as standard values. You have, however, the possibility to change them to your individual liking. Press the button repeatedly until the required item is indicated in the on-screen display: 1) contrast, 2) colour, 3) brightness, 4) hue (only for NTSC colour system), 5) sharpness, 6) bass, 7) treble or 8) balance. You can adjust the settings by pressing the + or - button.
b) **Preset-mode:** Use these buttons to name a station. See "TO PRESET CHANNELS".

13 **Reset-button**
By pressing this button the picture and sound adjustments are reset to the factory-set levels.

14 **Standby-button**
Press this button to switch the set into standby-mode. You can switch it on again by pressing the TV-button (15) or one of the number buttons (8). To return to the teletext mode, press the (17/18) button. There will be a slight delay before the picture is restored.

Note

Use the Standby-button (14) only when switching the set off for a short period of time. If the set will not be used for a longer span of time, switch it off by using the Power switch (A).

15 **Input-Select-Button**
Press this button to select the audio- or video-signals input at the various input connectors. With each pressing of the button a different connector is selected. The following indications will appear sequentially:
1 -> 2 (RGB) + 2 -> 3 -> 4 -> 5 -> 6 -> 7 -> 8 -> 9 -> 10 -> 11 -> 12 -> 13 -> 14 -> 15 -> 16 -> 17 -> 18 -> 19 -> 20 -> 21 -> 22 -> 23 -> 24 -> 25 -> 26 -> 27 -> 28 -> 29 -> 30 -> 31 -> 32 -> 33 -> 34 -> 35 -> 36 -> 37 -> 38 -> 39 -> 40 -> 41 -> 42 -> 43 -> 44 -> 45 -> 46 -> 47 -> 48 -> 49 -> 50 -> 51 -> 52 -> 53 -> 54 -> 55 -> 56 -> 57 -> 58 -> 59 -> 60 -> 61 -> 62 -> 63 -> 64 -> 65 -> 66 -> 67 -> 68 -> 69 -> 70 -> 71 -> 72 -> 73 -> 74 -> 75 -> 76 -> 77 -> 78 -> 79 -> 80 -> 81 -> 82 -> 83 -> 84 -> 85 -> 86 -> 87 -> 88 -> 89 -> 90 -> 91 -> 92 -> 93 -> 94 -> 95 -> 96 -> 97 -> 98 -> 99 -> 100 -> 101 -> 102 -> 103 -> 104 -> 105 -> 106 -> 107 -> 108 -> 109 -> 110 -> 111 -> 112 -> 113 -> 114 -> 115 -> 116 -> 117 -> 118 -> 119 -> 120 -> 121 -> 122 -> 123 -> 124 -> 125 -> 126 -> 127 -> 128 -> 129 -> 130 -> 131 -> 132 -> 133 -> 134 -> 135 -> 136 -> 137 -> 138 -> 139 -> 140 -> 141 -> 142 -> 143 -> 144 -> 145 -> 146 -> 147 -> 148 -> 149 -> 150 -> 151 -> 152 -> 153 -> 154 -> 155 -> 156 -> 157 -> 158 -> 159 -> 160 -> 161 -> 162 -> 163 -> 164 -> 165 -> 166 -> 167 -> 168 -> 169 -> 170 -> 171 -> 172 -> 173 -> 174 -> 175 -> 176 -> 177 -> 178 -> 179 -> 180 -> 181 -> 182 -> 183 -> 184 -> 185 -> 186 -> 187 -> 188 -> 189 -> 190 -> 191 -> 192 -> 193 -> 194 -> 195 -> 196 -> 197 -> 198 -> 199 -> 200 -> 201 -> 202 -> 203 -> 204 -> 205 -> 206 -> 207 -> 208 -> 209 -> 210 -> 211 -> 212 -> 213 -> 214 -> 215 -> 216 -> 217 -> 218 -> 219 -> 220 -> 221 -> 222 -> 223 -> 224 -> 225 -> 226 -> 227 -> 228 -> 229 -> 230 -> 231 -> 232 -> 233 -> 234 -> 235 -> 236 -> 237 -> 238 -> 239 -> 240 -> 241 -> 242 -> 243 -> 244 -> 245 -> 246 -> 247 -> 248 -> 249 -> 250 -> 251 -> 252 -> 253 -> 254 -> 255 -> 256 -> 257 -> 258 -> 259 -> 260 -> 261 -> 262 -> 263 -> 264 -> 265 -> 266 -> 267 -> 268 -> 269 -> 270 -> 271 -> 272 -> 273 -> 274 -> 275 -> 276 -> 277 -> 278 -> 279 -> 280 -> 281 -> 282 -> 283 -> 284 -> 285 -> 286 -> 287 -> 288 -> 289 -> 290 -> 291 -> 292 -> 293 -> 294 -> 295 -> 296 -> 297 -> 298 -> 299 -> 300 -> 301 -> 302 -> 303 -> 304 -> 305 -> 306 -> 307 -> 308 -> 309 -> 310 -> 311 -> 312 -> 313 -> 314 -> 315 -> 316 -> 317 -> 318 -> 319 -> 320 -> 321 -> 322 -> 323 -> 324 -> 325 -> 326 -> 327 -> 328 -> 329 -> 330 -> 331 -> 332 -> 333 -> 334 -> 335 -> 336 -> 337 -> 338 -> 339 -> 340 -> 341 -> 342 -> 343 -> 344 -> 345 -> 346 -> 347 -> 348 -> 349 -> 350 -> 351 -> 352 -> 353 -> 354 -> 355 -> 356 -> 357 -> 358 -> 359 -> 360 -> 361 -> 362 -> 363 -> 364 -> 365 -> 366 -> 367 -> 368 -> 369 -> 370 -> 371 -> 372 -> 373 -> 374 -> 375 -> 376 -> 377 -> 378 -> 379 -> 380 -> 381 -> 382 -> 383 -> 384 -> 385 -> 386 -> 387 -> 388 -> 389 -> 390 -> 391 -> 392 -> 393 -> 394 -> 395 -> 396 -> 397 -> 398 -> 399 -> 400 -> 401 -> 402 -> 403 -> 404 -> 405 -> 406 -> 407 -> 408 -> 409 -> 410 -> 411 -> 412 -> 413 -> 414 -> 415 -> 416 -> 417 -> 418 -> 419 -> 420 -> 421 -> 422 -> 423 -> 424 -> 425 -> 426 -> 427 -> 428 -> 429 -> 430 -> 431 -> 432 -> 433 -> 434 -> 435 -> 436 -> 437 -> 438 -> 439 -> 440 -> 441 -> 442 -> 443 -> 444 -> 445 -> 446 -> 447 -> 448 -> 449 -> 450 -> 451 -> 452 -> 453 -> 454 -> 455 -> 456 -> 457 -> 458 -> 459 -> 460 -> 461 -> 462 -> 463 -> 464 -> 465 -> 466 -> 467 -> 468 -> 469 -> 470 -> 471 -> 472 -> 473 -> 474 -> 475 -> 476 -> 477 -> 478 -> 479 -> 480 -> 481 -> 482 -> 483 -> 484 -> 485 -> 486 -> 487 -> 488 -> 489 -> 490 -> 491 -> 492 -> 493 -> 494 -> 495 -> 496 -> 497 -> 498 -> 499 -> 500 -> 501 -> 502 -> 503 -> 504 -> 505 -> 506 -> 507 -> 508 -> 509 -> 510 -> 511 -> 512 -> 513 -> 514 -> 515 -> 516 -> 517 -> 518 -> 519 -> 520 -> 521 -> 522 -> 523 -> 524 -> 525 -> 526 -> 527 -> 528 -> 529 -> 530 -> 531 -> 532 -> 533 -> 534 -> 535 -> 536 -> 537 -> 538 -> 539 -> 540 -> 541 -> 542 -> 543 -> 544 -> 545 -> 546 -> 547 -> 548 -> 549 -> 550 -> 551 -> 552 -> 553 -> 554 -> 555 -> 556 -> 557 -> 558 -> 559 -> 560 -> 561 -> 562 -> 563 -> 564 -> 565 -> 566 -> 567 -> 568 -> 569 -> 570 -> 571 -> 572 -> 573 -> 574 -> 575 -> 576 -> 577 -> 578 -> 579 -> 580 -> 581 -> 582 -> 583 -> 584 -> 585 -> 586 -> 587 -> 588 -> 589 -> 590 -> 591 -> 592 -> 593 -> 594 -> 595 -> 596 -> 597 -> 598 -> 599 -> 600 -> 601 -> 602 -> 603 -> 604 -> 605 -> 606 -> 607 -> 608 -> 609 -> 610 -> 611 -> 612 -> 613 -> 614 -> 615 -> 616 -> 617 -> 618 -> 619 -> 620 -> 621 -> 622 -> 623 -> 624 -> 625 -> 626 -> 627 -> 628 -> 629 -> 630 -> 631 -> 632 -> 633 -> 634 -> 635 -> 636 -> 637 -> 638 -> 639 -> 640 -> 641 -> 642 -> 643 -> 644 -> 645 -> 646 -> 647 -> 648 -> 649 -> 650 -> 651 -> 652 -> 653 -> 654 -> 655 -> 656 -> 657 -> 658 -> 659 -> 660 -> 661 -> 662 -> 663 -> 664 -> 665 -> 666 -> 667 -> 668 -> 669 -> 670 -> 671 -> 672 -> 673 -> 674 -> 675 -> 676 -> 677 -> 678 -> 679 -> 680 -> 681 -> 682 -> 683 -> 684 -> 685 -> 686 -> 687 -> 688 -> 689 -> 690 -> 691 -> 692 -> 693 -> 694 -> 695 -> 696 -> 697 -> 698 -> 699 -> 700 -> 701 -> 702 -> 703 -> 704 -> 705 -> 706 -> 707 -> 708 -> 709 -> 710 -> 711 -> 712 -> 713 -> 714 -> 715 -> 716 -> 717 -> 718 -> 719 -> 720 -> 721 -> 722 -> 723 -> 724 -> 725 -> 726 -> 727 -> 728 -> 729 -> 730 -> 731 -> 732 -> 733 -> 734 -> 735 -> 736 -> 737 -> 738 -> 739 -> 740 -> 741 -> 742 -> 743 -> 744 -> 745 -> 746 -> 747 -> 748 -> 749 -> 750 -> 751 -> 752 -> 753 -> 754 -> 755 -> 756 -> 757 -> 758 -> 759 -> 760 -> 761 -> 762 -> 763 -> 764 -> 765 -> 766 -> 767 -> 768 -> 769 -> 770 -> 771 -> 772 -> 773 -> 774 -> 775 -> 776 -> 777 -> 778 -> 779 -> 780 -> 781 -> 782 -> 783 -> 784 -> 785 -> 786 -> 787 -> 788 -> 789 -> 790 -> 791 -> 792 -> 793 -> 794 -> 795 -> 796 -> 797 -> 798 -> 799 -> 800 -> 801 -> 802 -> 803 -> 804 -> 805 -> 806 -> 807 -> 808 -> 809 -> 810 -> 811 -> 812 -> 813 -> 814 -> 815 -> 816 -> 817 -> 818 -> 819 -> 820 -> 821 -> 822 -> 823 -> 824 -> 825 -> 826 -> 827 -> 828 -> 829 -> 830 -> 831 -> 832 -> 833 -> 834 -> 835 -> 836 -> 837 -> 838 -> 839 -> 840 -> 841 -> 842 -> 843 -> 844 -> 845 -> 846 -> 847 -> 848 -> 849 -> 850 -> 851 -> 852 -> 853 -> 854 -> 855 -> 856 -> 857 -> 858 -> 859 -> 860 -> 861 -> 862 -> 863 -> 864 -> 865 -> 866 -> 867 -> 868 -> 869 -> 870 -> 871 -> 872 -> 873 -> 874 -> 875 -> 876 -> 877 -> 878 -> 879 -> 880 -> 881 -> 882 -> 883 -> 884 -> 885 -> 886 -> 887 -> 888 -> 889 -> 890 -> 891 -> 892 -> 893 -> 894 -> 895 -> 896 -> 897 -> 898 -> 899 -> 900 -> 901 -> 902 -> 903 -> 904 -> 905 -> 906 -> 907 -> 908 -> 909 -> 910 -> 911 -> 912 -> 913 -> 914 -> 915 -> 916 -> 917 -> 918 -> 919 -> 920 -> 921 -> 922 -> 923 -> 924 -> 925 -> 926 -> 927 -> 928 -> 929 -> 930 -> 931 -> 932 -> 933 -> 934 -> 935 -> 936 -> 937 -> 938 -> 939 -> 940 -> 941 -> 942 -> 943 -> 944 -> 945 -> 946 -> 947 -> 948 -> 949 -> 950 -> 951 -> 952 -> 953 -> 954 -> 955 -> 956 -> 957 -> 958 -> 959 -> 960 -> 961 -> 962 -> 963 -> 964 -> 965 -> 966 -> 967 -> 968 -> 969 -> 970 -> 971 -> 972 -> 973 -> 974 -> 975 -> 976 -> 977 -> 978 -> 979 -> 980 -> 981 -> 982 -> 983 -> 984 -> 985 -> 986 -> 987 -> 988 -> 989 -> 990 -> 991 -> 992 -> 993 -> 994 -> 995 -> 996 -> 997 -> 998 -> 999 -> 1000 -> 1001 -> 1002 -> 1003 -> 1004 -> 1005 -> 1006 -> 1007 -> 1008 -> 1009 -> 1010 -> 1011 -> 1012 -> 1013 -> 1014 -> 1015 -> 1016 -> 1017 -> 1018 -> 1019 -> 1020 -> 1021 -> 1022 -> 1023 -> 1024 -> 1025 -> 1026 -> 1027 -> 1028 -> 1029 -> 1030 -> 1031 -> 1032 -> 1033 -> 1034 -> 1035 -> 1036 -> 1037 -> 1038 -> 1039 -> 1040 -> 1041 -> 1042 -> 1043 -> 1044 -> 1045 -> 1046 -> 1047 -> 1048 -> 1049 -> 1050 -> 1051 -> 1052 -> 1053 -> 1054 -> 1055 -> 1056 -> 1057 -> 1058 -> 1059 -> 1060 -> 1061 -> 1062 -> 1063 -> 1064 -> 1065 -> 1066 -> 1067 -> 1068 -> 1069 -> 1070 -> 1071 -> 1072 -> 1073 -> 1074 -> 1075 -> 1076 -> 1077 -> 1078 -> 1079 -> 1080 -> 1081 -> 1082 -> 1083 -> 1084 -> 1085 -> 1086 -> 1087 -> 1088 -> 1089 -> 1090 -> 1091 -> 1092 -> 1093 -> 1094 -> 1095 -> 1096 -> 1097 -> 1098 -> 1099 -> 1100 -> 1101 -> 1102 -> 1103 -> 1104 -> 1105 -> 1106 -> 1107 -> 1108 -> 1109 -> 1110 -> 1111 -> 1112 -> 1113 -> 1114 -> 1115 -> 1116 -> 1117 -> 1118 -> 1119 -> 1120 -> 1121 -> 1122 -> 1123 -> 1124 -> 1125 -> 1126 -> 1127 -> 1128 -> 1129 -> 1130 -> 1131 -> 1132 -> 1133 -> 1134 -> 1135 -> 1136 -> 1137 -> 1138 -> 1139 -> 1140 -> 1141 -> 1142 -> 1143 -> 1144 -> 1145 -> 1146 -> 1147 -> 1148 -> 1149 -> 1150 -> 1151 -> 1152 -> 1153 -> 1154 -> 1155 -> 1156 -> 1157 -> 1158 -> 1159 -> 1160 -> 1161 -> 1162 -> 1163 -> 1164 -> 1165 -> 1166 -> 1167 -> 1168 -> 1169 -> 1170 -> 1171 -> 1172 -> 1173 -> 1174 -> 1175 -> 1176 -> 1177 -> 1178 -> 1179 -> 1180 -> 1181 -> 1182 -> 1183 -> 1184 -> 1185 -> 1186 -> 1187 -> 1188 -> 1189 -> 1190 -> 1191 -> 1192 -> 1193 -> 1194 -> 1195 -> 1196 -> 1197 -> 1198 -> 1199 -> 1200 -> 1201 -> 1202 -> 1203 -> 1204 -> 1205 -> 1206 -> 1207 -> 1208 -> 1209 -> 1210 -> 1211 -> 1212 -> 1213 -> 1214 -> 1215 -> 1216 -> 1217 -> 1218 -> 1219 -> 1220 -> 1221 -> 1222 -> 1223 -> 1224 -> 1225 -> 1226 -> 1227 -> 1228 -> 1229 -> 1230 -> 1231 -> 1232 -> 1233 -> 1234 -> 1235 -> 1236 -> 1237 -> 1238 -> 1239 -> 1240 -> 1241 -> 1242 -> 1243 -> 1244 -> 1245 -> 1246 -> 1247 -> 1248 -> 1249 -> 1250 -> 1251 -> 1252 -> 1253 -> 1254 -> 1255 -> 1256 -> 1257 -> 1258 -> 1259 -> 1260 -> 1261 -> 1262 -> 1263 -> 1264 -> 1265 -> 1266 -> 1267 -> 1268 -> 1269 -> 1270 -> 1271 -> 1272 -> 1273 -> 1274 -> 1275 -> 1276 -> 1277 -> 1278 -> 1279 -> 1280 -> 1281 -> 1282 -> 1283 -> 1284 -> 1285 -> 1286 -> 1287 -> 1288 -> 1289 -> 1290 -> 1291 -> 1292 -> 1293 -> 1294 -> 1295 -> 1296 -> 1297 -> 1298 -> 1299 -> 1300 -> 1301 -> 1302 -> 1303 -> 1304 -> 1305 -> 1306 -> 1307 -> 1308 -> 1309 -> 1310 -> 1311 -> 1312 -> 131

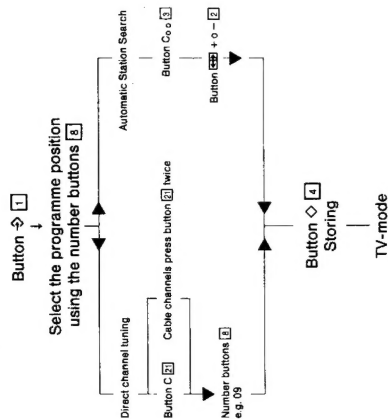
1-2. TO PRESET CHANNELS

Use the buttons on the Remote Commander for presetting. In total there are 60 programme positions at your disposal for storing channels.

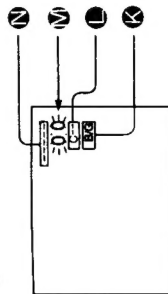
There are two different ways of tuning in channels:

1. Direct Channel Tuning
You know the channel number of a station and can input it directly.

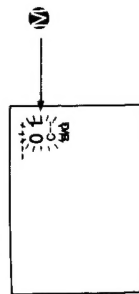
2. Automatic Station Search
The set searches automatically for stations (including cable channels).



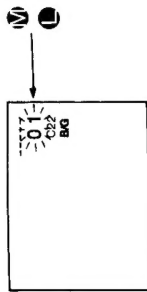
1. Direct Channel Tuning
1. Press the Preset button \diamond [1]. You are now in the preset mode of the set. The programme number in the on-screen display \mathcal{N} starts blinking.



2. With the buttons PROG \pm [24] or the number buttons [0-9] you can select the programme position. In case of two-digit numbers, press first the button \pm [9] and then the two number buttons.

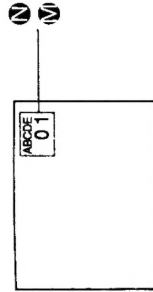


3. Press button C [2]. The indication «C» and the channel number start blinking in the display \mathcal{N} . Select the channel number with two digits (e.g. 22) using the number buttons [0-9].



If you want to select a cable channel press button C [2] twice. In this case the indication «S» will appear in the display \mathcal{N} . Select the channel number as described above.

4. Press the button \diamond [1] in order to store the channel and to return to the TV-mode.



If you want to store further channels, repeat the steps 1 to 4.

2. Automatic Station Search

1. Press button \diamond [1]. You are now in the preset mode of the set. The programme number in the on-screen display \mathcal{N} starts blinking.

2. With the PROG buttons \pm [24] or the number buttons [0-9] you can select the programme position. In case of two-digit numbers, press the first button \pm [9] and then the two number buttons.

3. If there is already a stored station on the selected programme position, press button C [2].

4. Press one of the tuning buttons \mathcal{N} \pm [2] to start the station search. The search will be interrupted as soon as a station is tuned in. Press the tuning buttons repeatedly until you find the desired station.

5. If you have found the desired station, press button \diamond [1]. Now the selected station is stored and you are back in the TV-mode.

6. If you want to store further stations, repeat the steps 1-5.

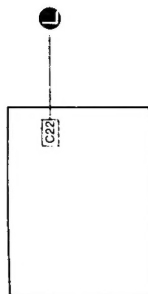
ADDITIONAL FUNCTIONS

Direct Channel Tuning in the TV-mode

You have the possibility to tune in channels directly when the set is in the TV-mode without storing these channels. Example: You tune in channel number 22. If you switch the set off or change the programme position, this channel will be cancelled.

1. Press the button C [2]. In the display \mathcal{N} the indication «C» will appear. For cable channels press the button C [2] twice. On the screen «S» will be displayed.

2. Select the channel number with two digits using the number buttons [0-9] (e.g. for channel 4 press first 0, then 4). The indication on the screen will disappear within some seconds.



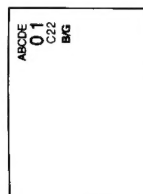
Manual Fine Tuning

If the reception of a channel is not satisfactory, you have the possibility to deactivate the Automatic Fine Tuning, which is usually in operation during presetting in order to tune in the best possible picture.

Press one of the tuning buttons \mathcal{N} \pm [2] to fine-tune a channel. The Automatic Fine Tuning will be restored when the respective programme position is pressed once again.

Notes

- If you press the preset button \diamond [1] instead of button \diamond [2] the set will return to the TV-mode without storing the channels.
- If you press a wrong programme or a channel number, an «x» will be displayed on the screen.
- When pressing two number buttons, the second number button should be pressed within 5 seconds after the first one, otherwise the operation will be cancelled.



1-3. VIEWING TELETEXT

To view the teletext service, use the Remote Commander. The buttons for teletext operation are indicated in green.

Operation

- 1 Select the TV channel for the desired teletext service. When the signal is weak, teletext errors often occur.
- 2 Press **[REVEAL]** (TEXT/MIX) to display the teletext service.
- 3 Key in the three digits of the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then, re-enter the correct page number.

The requested teletext page is displayed.

To request the index page

Press **[INDEX]**.
If the necessary signal is not being broadcast, page 100 is displayed.

To access the next or preceding page

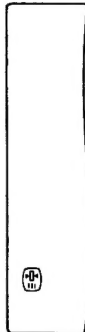
Press **[PAGE +]** or **[PAGE -]**.

To superimpose the teletext display on the picture

Press **[HOLD]** twice from the TV mode.
Press **[REVEAL]** again to return to the TEXT display.

To prevent a teletext page from being updated/changed

Press **[HOLD]**. The HOLD symbol appears on the screen.
To resume normal teletext reception, press **[REVEAL]** (TEXT/MIX).



To resume normal teletext reception, press **[REVEAL]**.

To enlarge the teletext display

Press **[REVEAL]** once to enlarge the upper half of the display; press again to enlarge the lower half of the display. And press again to return to the normal display.

To reveal concealed information such as answers to a quiz

Press **[REVEAL]**.
Press again to conceal the answers.

To watch the TV programme while waiting for a requested page to be displayed

1 Request the new page.

To return to the TV mode, press TV on the Remote Commander.

The teletext service can be displayed directly from the standby mode by pressing **[REVEAL]** (TEXT/MIX).

To receive the teletext service of a different TV channel

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press **[REVEAL]** (TEXT/MIX).

Note

Buttons not referred to in the text do not operate.

2 Press [REVEAL] to watch the TV programme.

The requested page number and other data appear at the top of the screen. When the requested page has been captured, the page number is displayed in the top left hand corner of the screen.



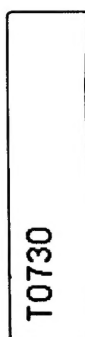
To view this page, press **[REVEAL]**.

To have a requested page displayed at a pre-determined time

- 1 Request a time coded page (e.g. alarm page).
- 2 Press **[TP ON]**.
"T****"



3 Enter your request time with the number buttons, using four digits. For example, 07.30.



To watch the TV programme until the requested time, press **[TEXT CL]**. At the requested time, the page number will be displayed at the bottom of the screen.

To view this page, press **[REVEAL]**.

To cancel the request, first ensure that the teletext page is displayed, then press **[TP OFF]**.

1-4. OPERATING OTHER EQUIPMENT

To view the input picture

Press the **[TV]** button repeatedly until the desired input signal indication appears on the screen.

[TV-1]: to view the audio and video signal input through the **[TV-1]** connector on the rear.

[TV-2]: to view the RGB signal (i.e. from a computer, etc.) input through the **[TV-2]** connector.

[TV-3]: to view the audio and video signal input through the **[TV-3]** connector on the rear.

[TV-4]: to view the S video signal (from a VTR equipped with an S video output) input through the **[TV-4]** connector.

[TV-5]: to view the audio and video signal input through the **[TV-5]** connectors and the audio input jacks (yellow, white and red) on the front.

[TV-6]: to view the S video signal input through the **[TV-6]** connectors on the front (4-pin connector and white and red phone jacks).

You can also select the desired input mode using the buttons on the front of the set. Select the **[TV]** mode with the mode select (**[P-1]** → **[TV]**) button **[TV]** then press **[+/-]** button.

To return to the TV mode, press the TV-button.

To select the signal to be output from the **[TV-2]** connector

Press the **[TV-2]** button repeatedly until the desired output source is indicated on the screen:

1 **[TV-2]**: The audio and video signal input through the **[TV-2]** connectors is output from the **[TV-2]** connector.

2 **[TV-2]**: The audio and video signal input through the **[TV-2]** connector is output from the **[TV-2]** connector.

3 **[TV-3]**: The audio and video signal input through the **[TV-3]** connectors is output from the **[TV-2]** connector.

[TV]: The audio and video signal input through the aerial terminal (i.e. usually the TV signal) is output from the **[TV-2]** connector.

The indication will disappear after a few seconds.

Note

The TV-signal is always output at the EURO-AV connector **[TV-1]**.

To operate Sony video equipment
The video operation buttons **[VTR]** on the Remote Commander can operate certain VTRs and video disc players manufactured by Sony.

1. Switch the video selector to the desired position.
VIDEO 1: to operate Sony Betamax VTR and SLV 202 VHS.
VIDEO 2: to operate Sony 8 mm VTR.
VIDEO 3: to operate Sony VHS VTR.
MDP: to operate Sony video disc player including a multi disc player.

2. Press the operation button(s) to start operation.
PROGR +/-: to select the desired programme on the VTR.

[PLAY]: to start playback, or to release the pause mode

[STOP]: to stop the tape or the disc

[REWIND]: to rewind the tape from stop mode or to rapidly go back to the desired position on the disc or tape from playback mode

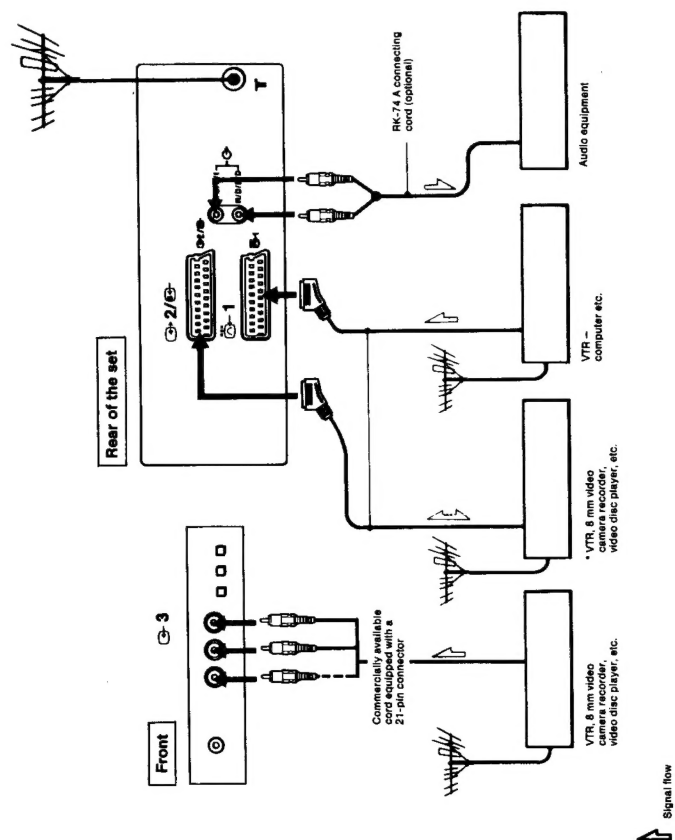
[FAST FORWARD]: to fast forward wind from stop mode or rapidly advance the tape or disc to the desired position from playback mode

[PAUSE]: to start recording on the VTR
Be sure to press this button and the one on the right simultaneously

[EJECT]: to switch the video equipment on and off

[STOP]: to stop the tape or the disc temporarily (pause)
Press again to release pause mode

1-5. CONNECTING OTHER EQUIPMENT



- * Connect the S video output of the VTR, etc. here.

Notes

- It is also possible to connect a VTR using the **T** terminal. In this case, connect the aerial to the aerial terminal of the VTR.
- Move the VTR away from the TV if the picture or the sound is distorted.
- Computers which have RGB output only can be connected to the **RGB-1** input connector.

11-6. RECEIVABLE CHANNELS AND CHANNEL DISPLAY

PAL B/G		
Receivable channels	Channel displays	
E 2	C 02	
3	C 03	
4	C 04	
⋮	⋮	
12	C 12	
21	C 21	
⋮	⋮	
69	C 69	

ITALY	
Receivable channels	Channel displays
A	C 13
B	C 14
C	C 15
D	C 16
E	C 17
F	C 18
G	C 19
H	C 20
H ₁	C 11
H ₂	C 12

CABLE TV (1)		Channel displays
S 1		S 01
2		S 02
...		...
41		S 41

CABLE TV (2)	
Receivable channels	Channel displays
S 01	S 42
S 05	S 46
M 1	S 01
M 10	S 10
U 1	S 11
U 10	S 20

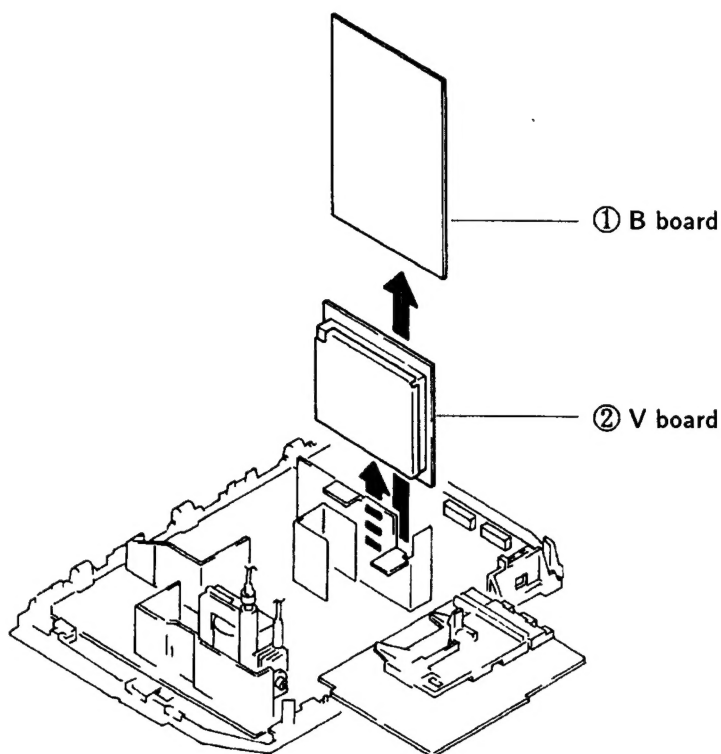
FRENCH SECAM-L	
Receivable channels	Channel displays
2	C 02
3	C 03
10	C 10
21	C 21
69	C 69

FRENCH CABLE TV	
Receivable channels	Channel displays
B	S 02
C	S 03
D	S 04
O	S 15
P	S 16
Q	S 17

PAL-I IRELAND		
Receivable channels	Channel displays	
A	C 01	
B	C 02	
C	C 03	
D	C 04	
E	C 05	
F	C 06	
G	C 07	
H	C 08	
J	C 09	

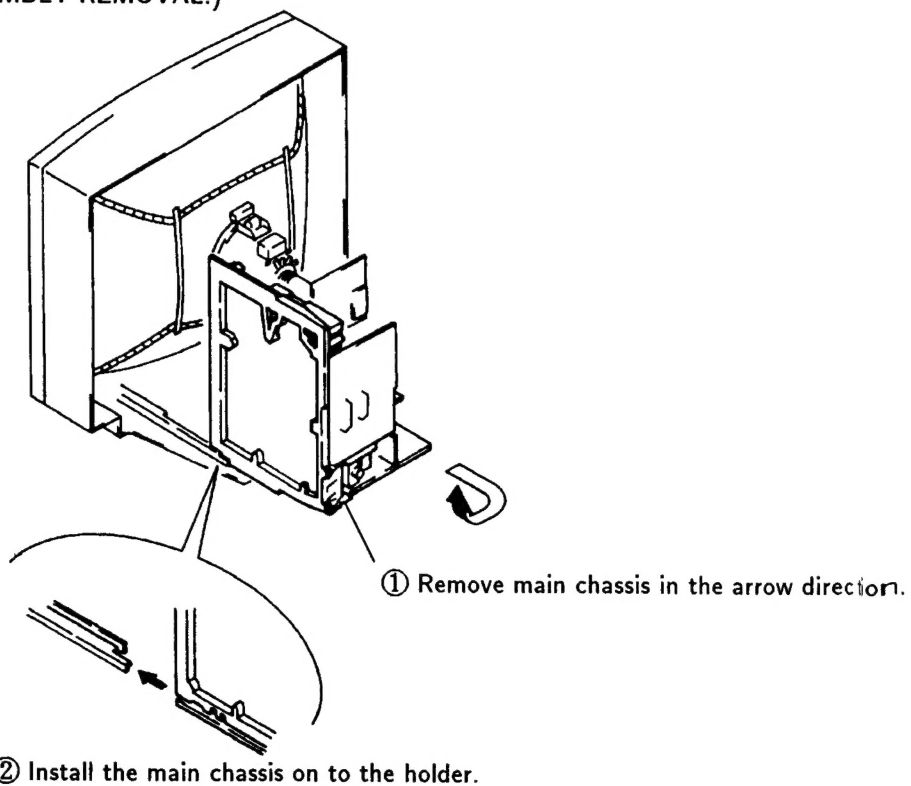
PAL-I UK	
Receivable channels	Channel displays
21	C 21
69	C 69

2-4. B AND V BOARDS REMOVAL



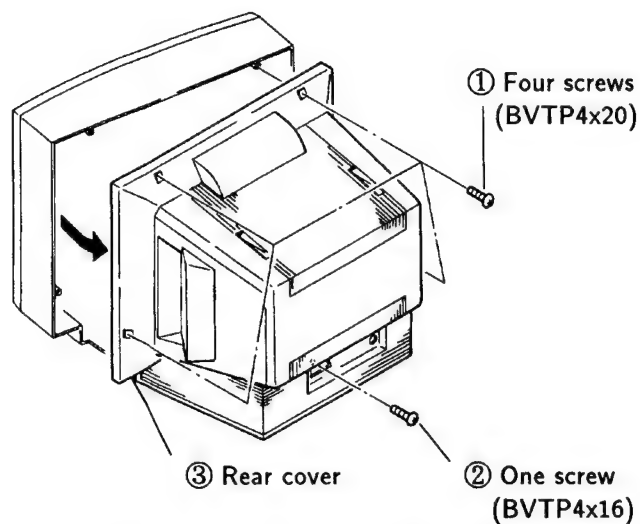
2-5. SERVICE POSITION

* Remove the connector bracket and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)



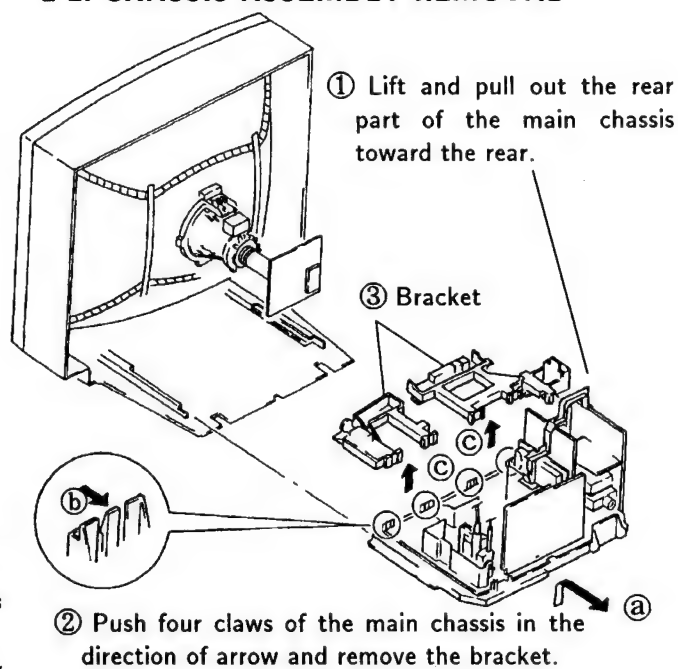
SECTION 2 DISASSEMBLY

2-1. REAR COVER REMOVAL

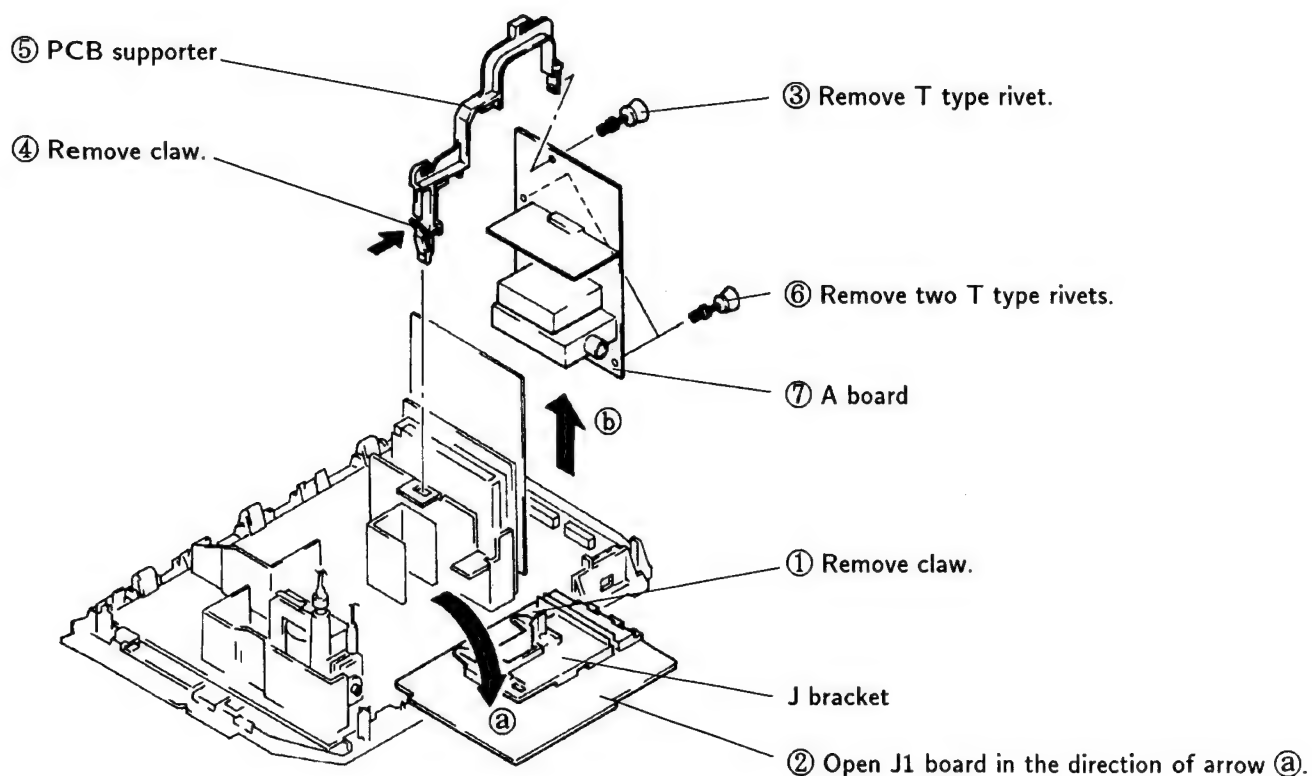


- ① Pull the rear cover and turn the right the speaker leads a fixed by the pathlock on the chassis.
- ② When attaching the rear cover for the speaker leads by pathlock.

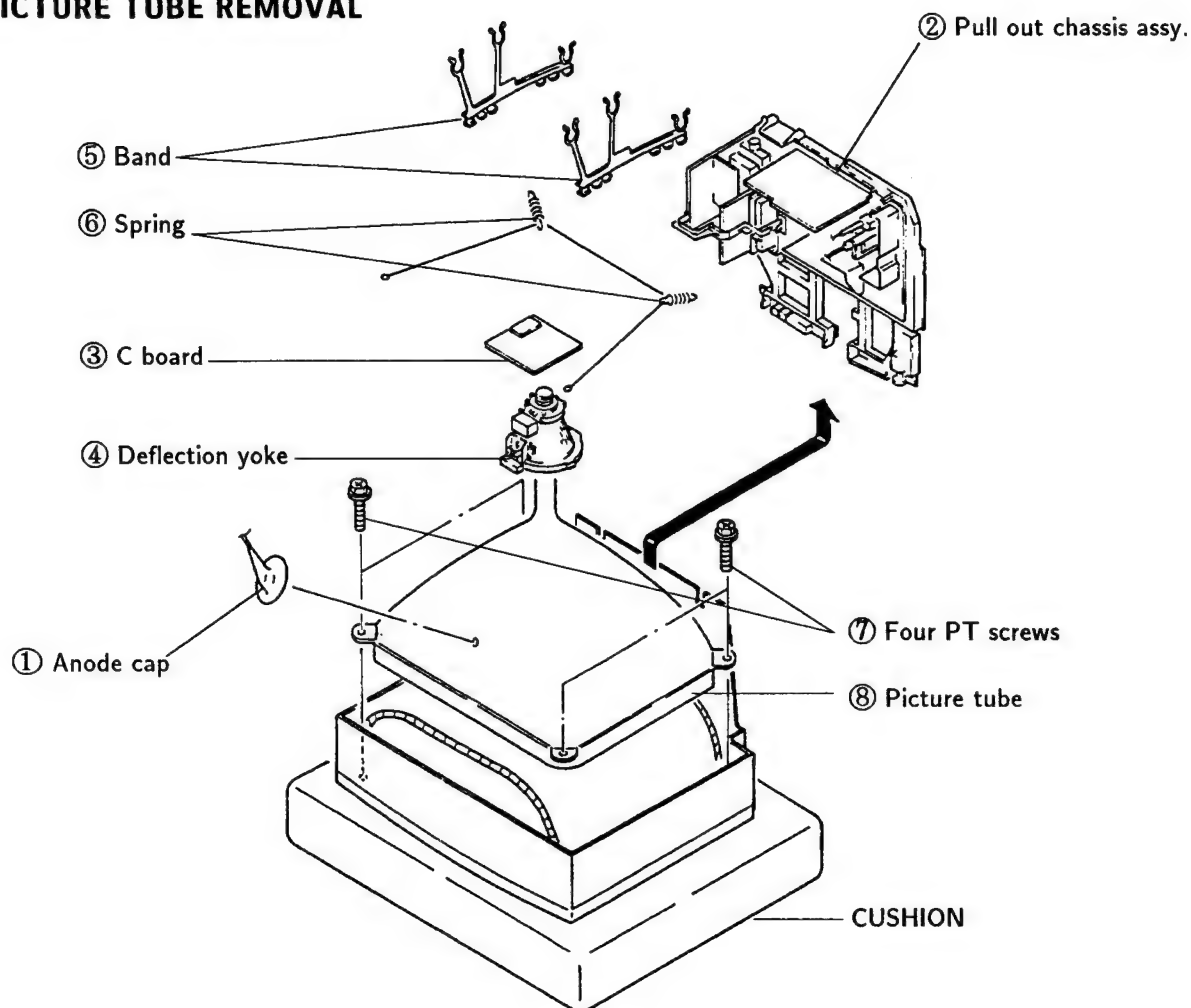
2-2. CHASSIS ASSEMBLY REMOVAL



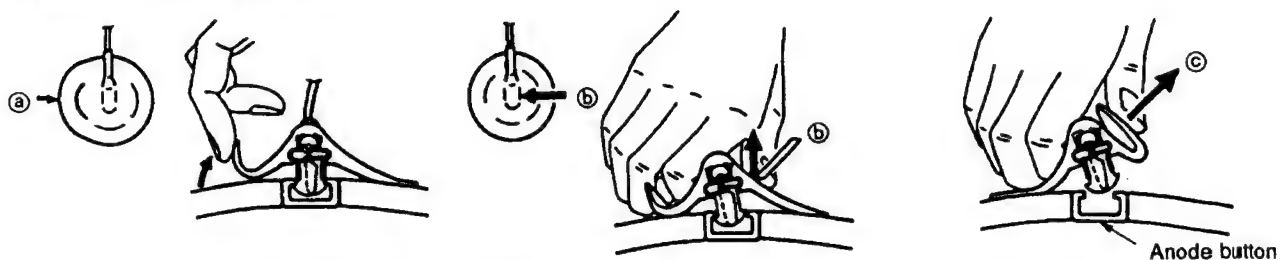
2-3. A AND J1 BOARD REMOVAL



2-6. PICTURE TUBE REMOVAL

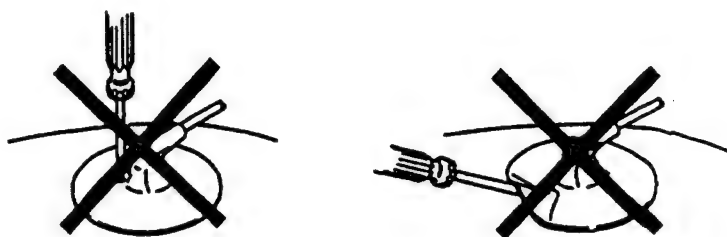


• REMOVAL OF ANODE-CAP • REMOVING PROCEDURES



• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardy not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardy!
The shatter-hook terminal will stick out or hurt the rubber.



SECITON 3

SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
 - Contrast80%
(or remote control normal)
 - ☀ Brightness50%

- Carry out the following adjustments in this order:

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
Contrast } normal
Brightness }
2. Set the pattern generator raster signal to red.
3. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
(See Figures 3-1 through 3-3.)
4. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
5. Switch the raster signal to blue, then to green and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it.
(See Figure 3-4.)

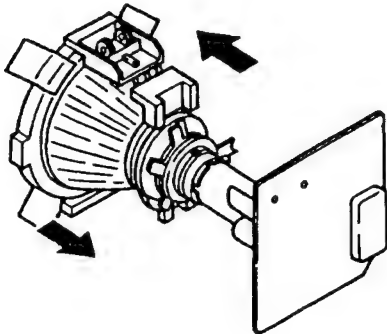


Fig. 3-1

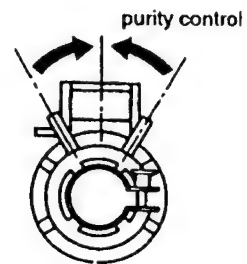


Fig. 3-2

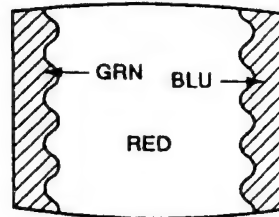


Fig. 3-3

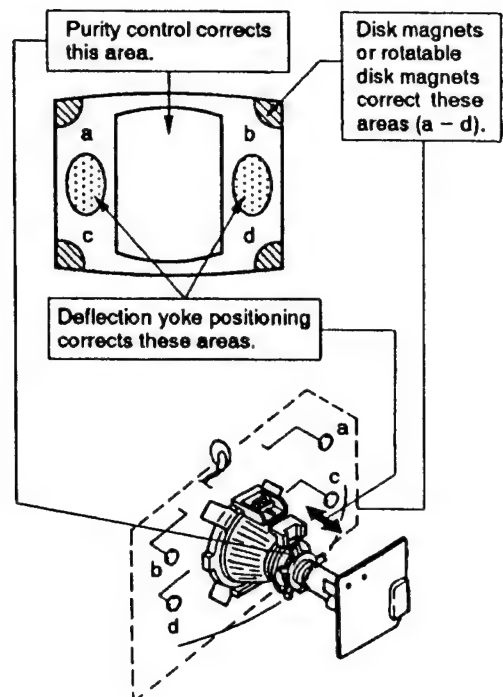


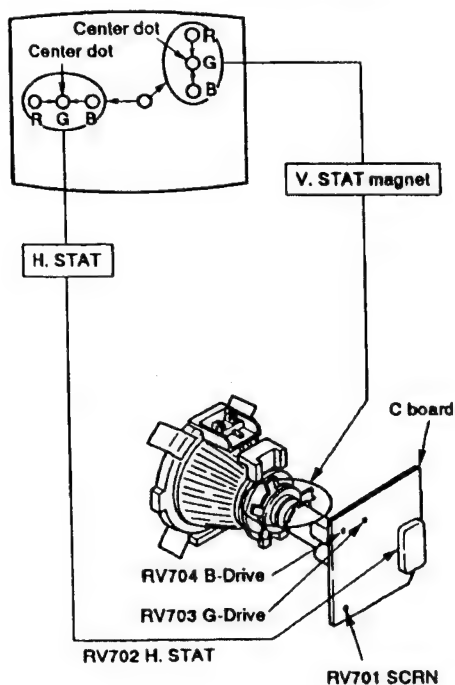
Fig. 3-4

3-2. CONVERGENCE

Preparations :

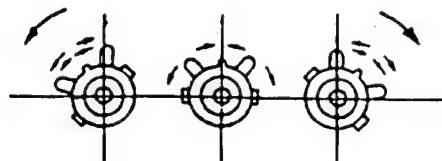
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

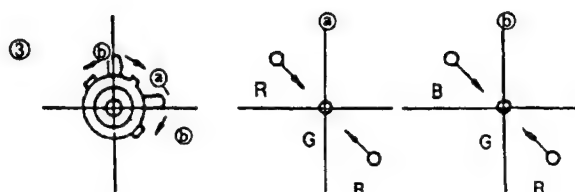
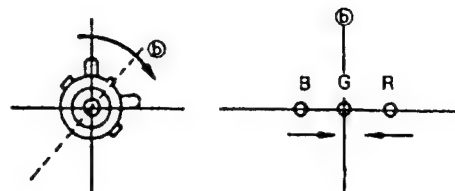
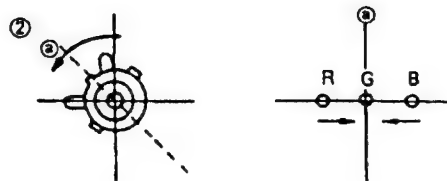
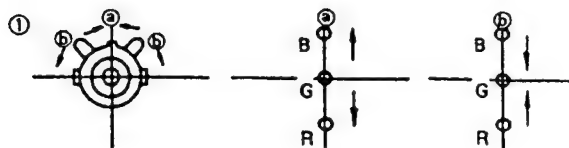


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor can not bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V. STAT magnet influence each other's settings.)

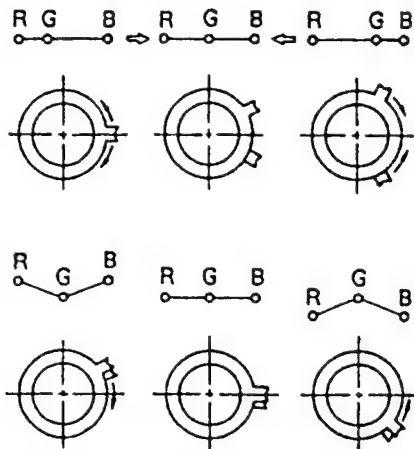
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the ① and ② arrows, the red, green, and blue points move as shown below.

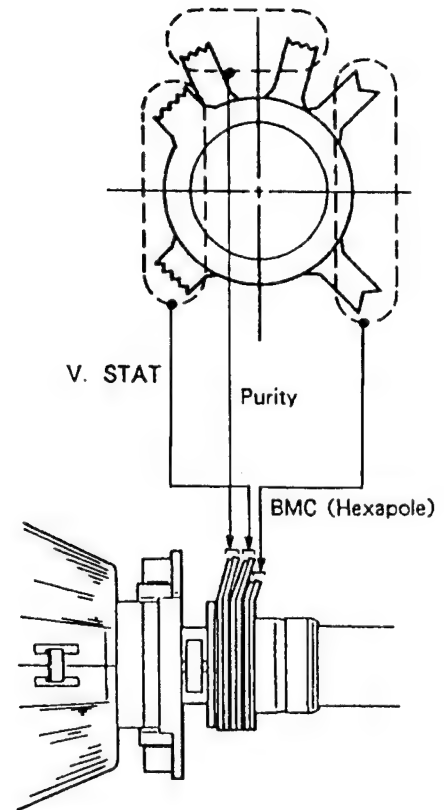


• Operation of BMC (Hexapole) Magnet



- The respective dot operations resulting from the operation of each magnet are not completely independent, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



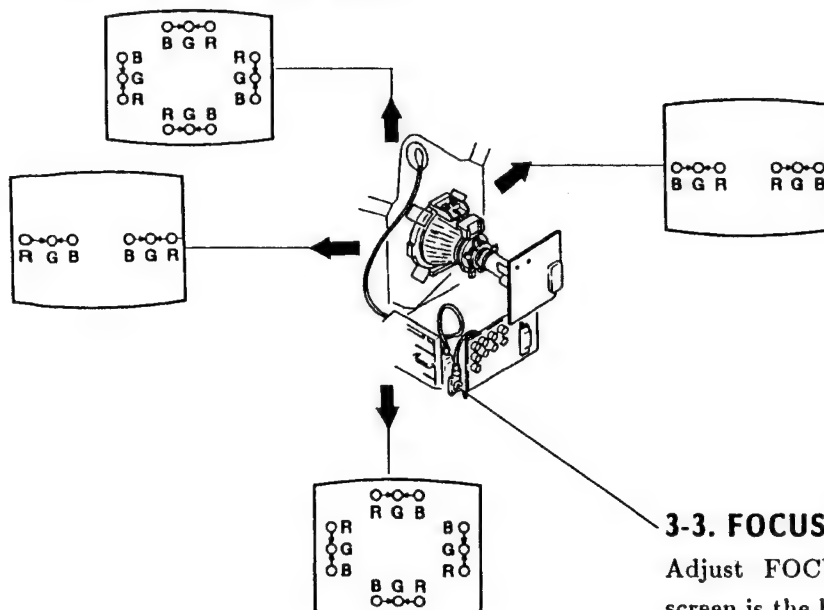
(2) Dynamic convergence adjustment

Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

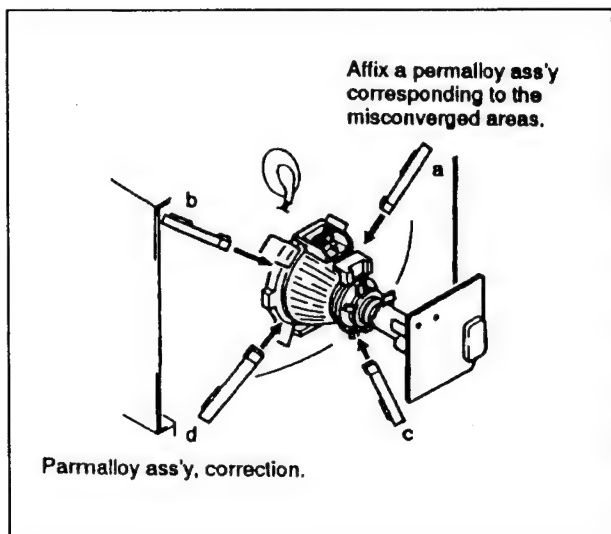
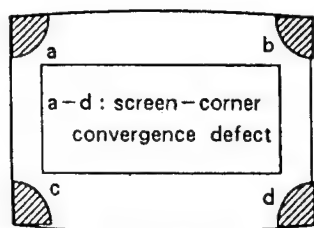
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.



3-3. FOCUS

Adjust FOCUS so that the whole screen is the best focus.

(3) Screen corner convergence**3-4. WHITE BALANCE****[Screen G2 setting]**

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

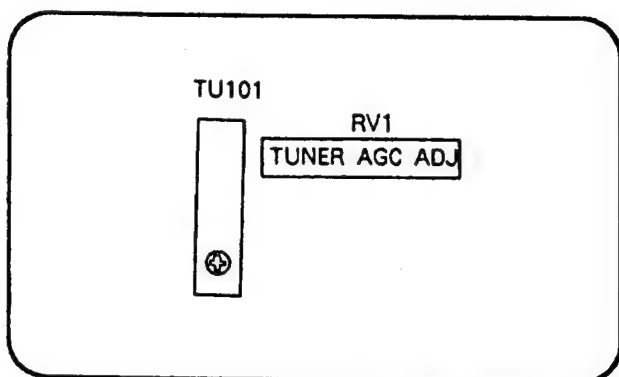
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENT

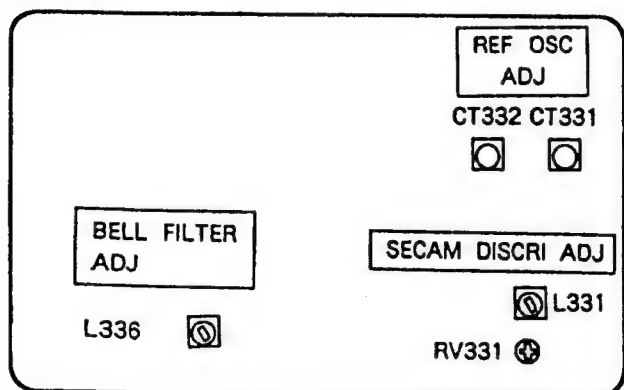


(COMPONENT SIDE)

TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

4-2. B BOARD ADJUSTMENTS



(COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT332 8.8MHz)

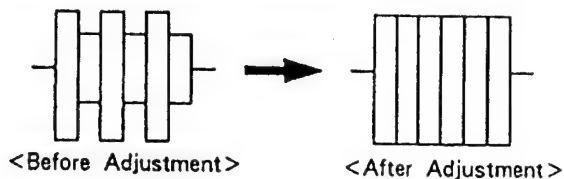
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC331.
3. Adjust CT332 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT331 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑰ of IC331.
3. Adjust the CT331 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC331.

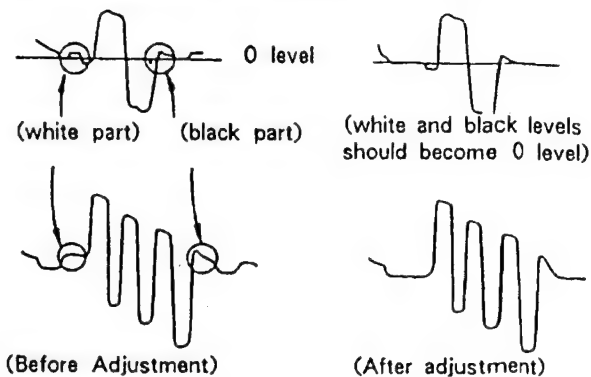
BELL FILTER ADJUSTMENT (L336)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q335.
3. Adjust L336 so that the waveform is flat.

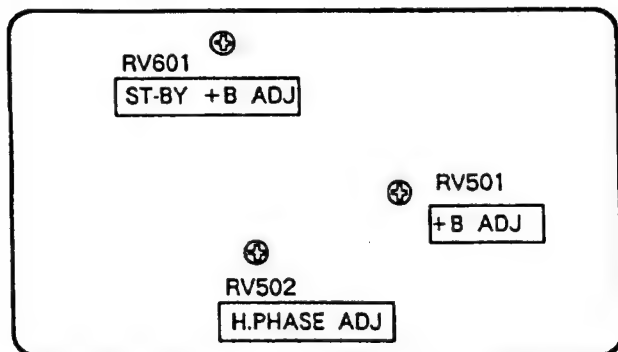


DISCRIMINATION ADJUSTMENT (RV331 and L331)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC331.
3. Adjust RV331 so that the white and black sections of the waveform at pin ① come to the 0 level.
4. Connect the oscilloscope to pin ③ of IC331.
5. Adjust L331 so that the white and black sections of the waveform at pin ③ come to the 0 level.



4-3. D BOARD ADJUSTMENTS

**+B ADJUSTMENT (RV501)**

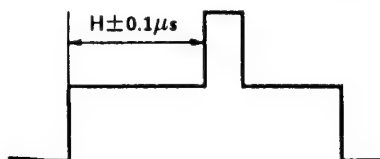
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain $135 \pm 0.2V$.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into \odot standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain $135 \pm 3V$.
4. Take the system out of \odot standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

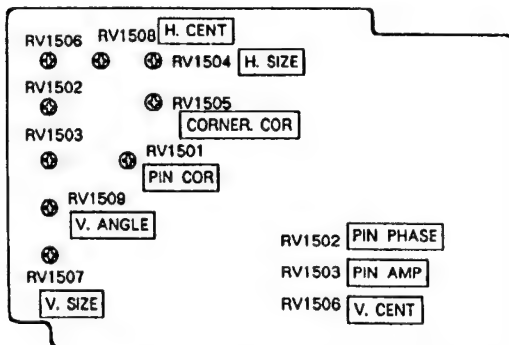
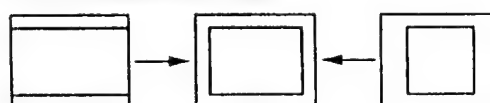
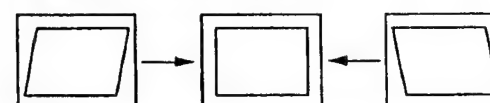
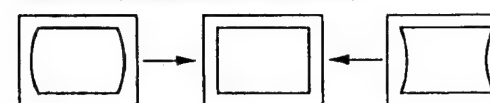
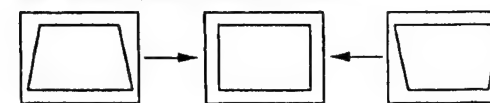
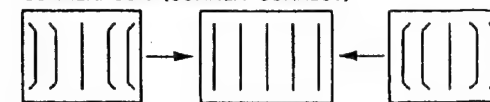
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to $H \pm 0.1\mu s$.
See below table for the H value.



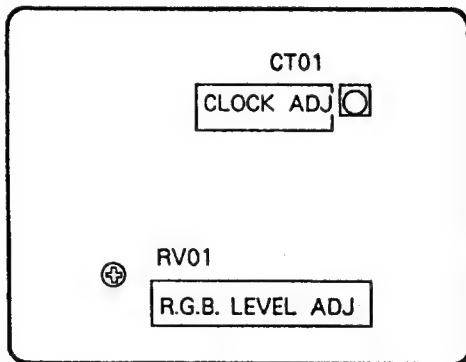
Standard of H.Phase

Model Size	H
21"	$5.6\mu s$
25"	$5.1\mu s$
29"	$5.5\mu s$

4-4. J1 BOARD ADJUSTMENTS

**RV1508 H. CENT (HORIZONTAL CENTER)****RV1504 H. SIZE (HORIZONTAL SIZE)****RV1506 V. CENT (VERTICAL CENTER)****RV1507 V. SIZE (VERTICAL SIZE)****RV1509 V. ANGLE (VERTICAL ANGLE)****RV1503 PIN AMP (PINCUSHION AMPLIFIER)****RV1502 PIN PHASE (PINCUSHION PHASE)****RV1501 PIN. COR (PINCUSHION CORRECT)****RV1505 CORNER. COR (CORNER CORRECT)**

4-5. V BOARD ADJUSTMENTS



CLOCK ADJUSTMENT (CT01)

1. Remove the V-1 connector.
2. Put the system into text mode.
3. Adjust CT01 so that the picture does not move.

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-6. SECONDARY ADJUSTMENT

SUB BRIGHTNESS ADJUSTMENT

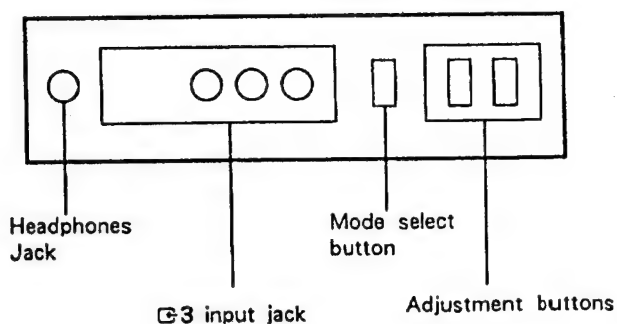
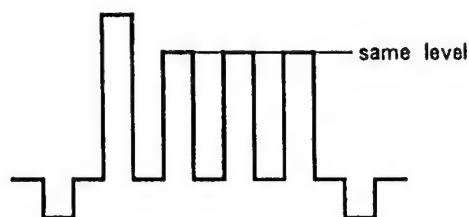
1. Set the system to receive a test pattern.
2. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the \odot contrast setting.
6. Adjust the \odot brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the \diamond (store) button of the remote commander.
(SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press on the remote commander to put system into normal mode.
Set the \odot color to its normal state.
- 3-5. are the same as above.
6. Since 20 IRE is nearly blue, adjust the \odot brightness control so that the blue barely glows.
7. is the same as above.
8. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Adjust the color control so that the B out waveform (pin ② of C board connector CNC72) is as shown in the figure below.
6. Depress the \diamond (store) button of the remote commander. (SUB mode is released)

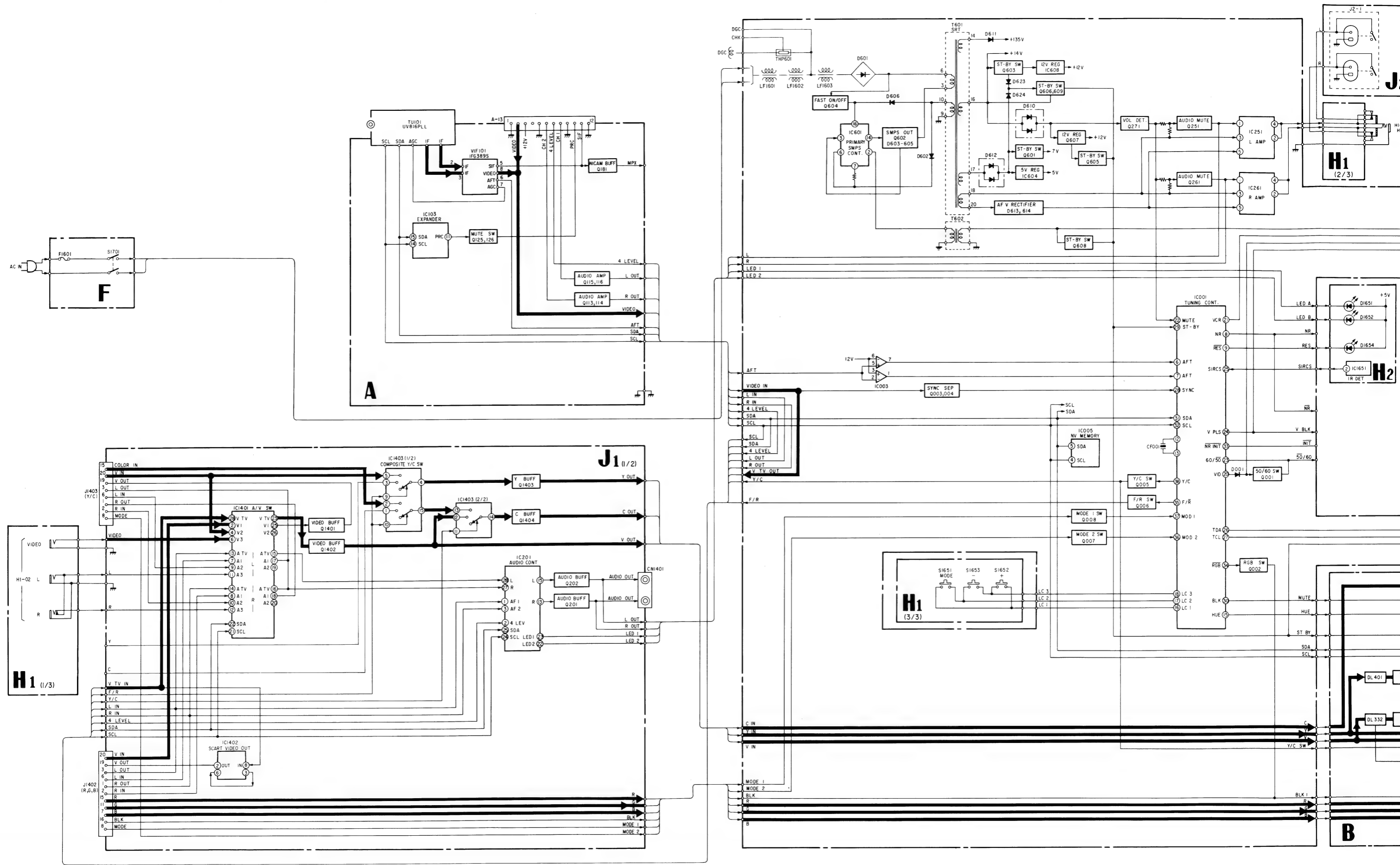


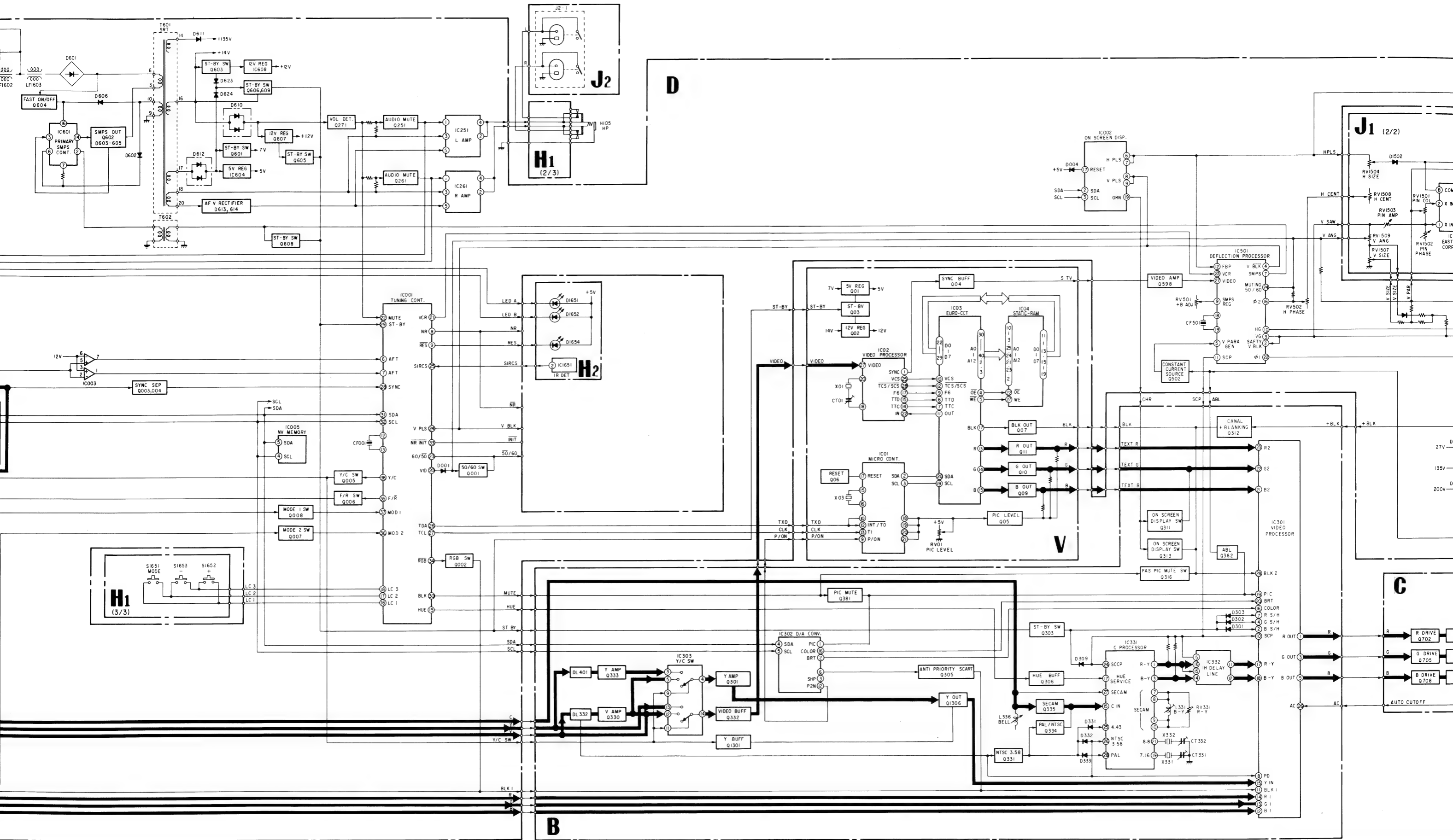
MEMO

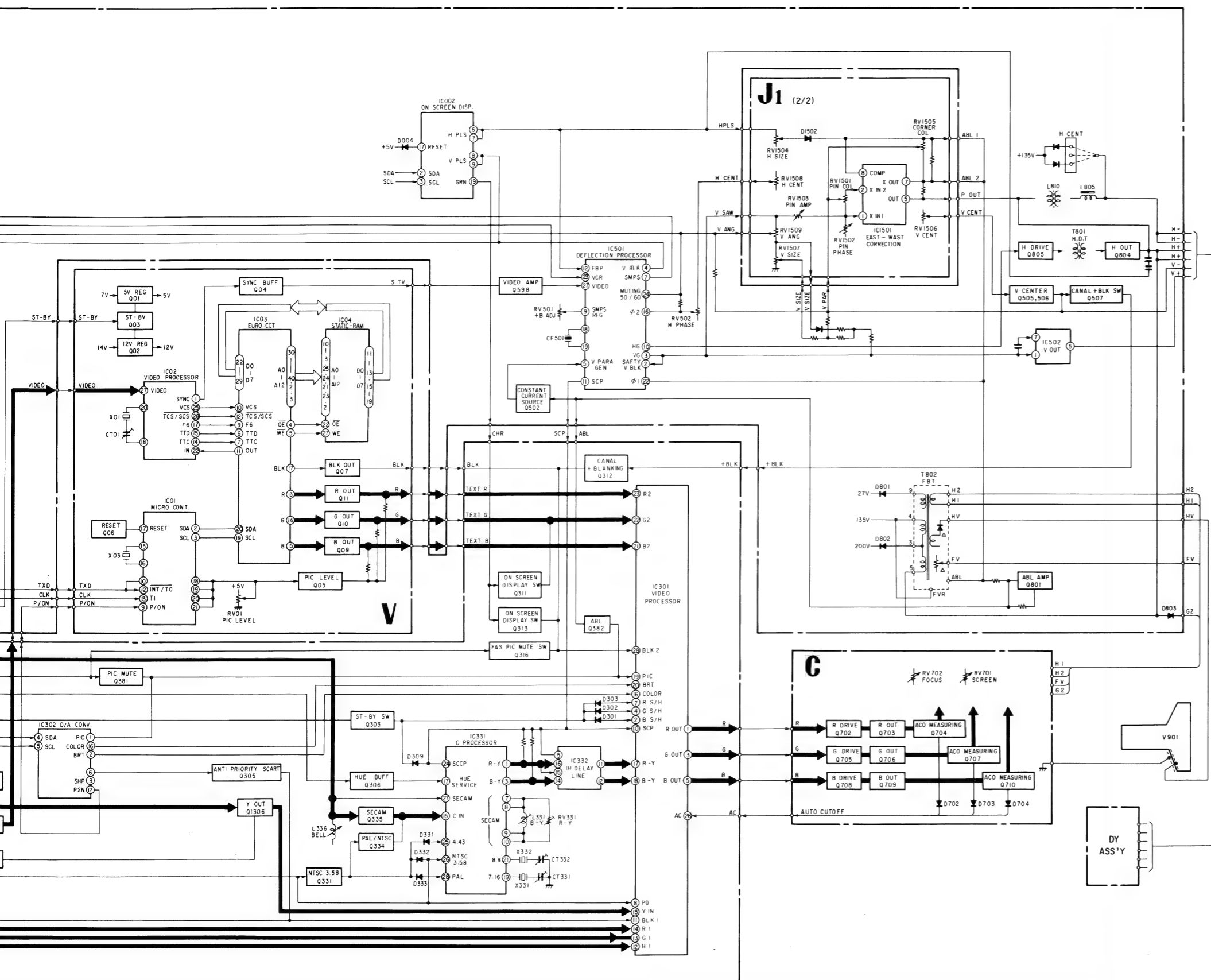
Handwriting practice lines consisting of 25 horizontal dotted lines.

SECTION 5
DIAGRAMS

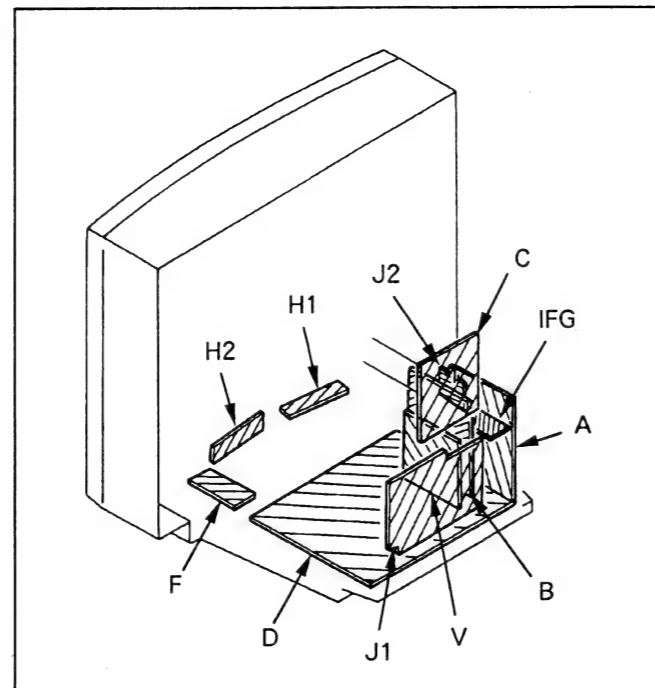
5-1. BLOCK DIAGRAM








5-2. CIRCUIT BOARDS LOCATION








Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note :

- All capacitors are in μF unless otherwise noted.
pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power: 1/4W

- Chip resistor is in 1/10W.
- All resistors are in ohms. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
-  : nonflammable resistor.
-  : fusible resistor.
- Δ : internal component.
-  : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a $10\text{M}\Omega$ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
-  : B + line.
-  : signal path.

H1 [CONTROL SW,
AV INPUT,
HEADPHONE]

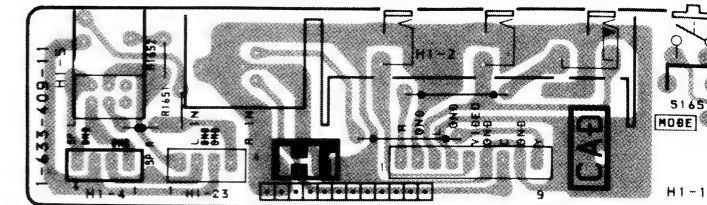
H2 [SIRCS RECEIVER,
INDICATOR]

F [A

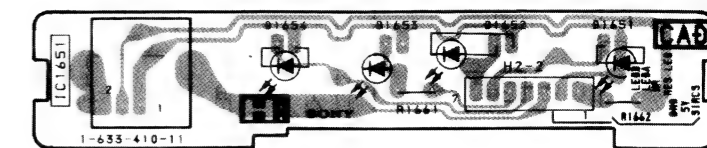
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

— Conductor Side —

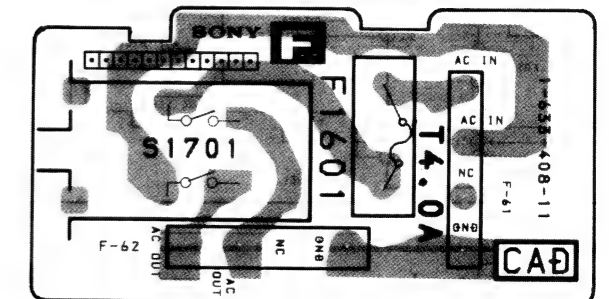
— H1 Board —



— H2 Board —



— F Board —



H1 [CONTROL SW,
AV INPUT,
HEADPHONE] **H2** [SIRCS RECEIVER,
INDICATOR] **F** [AC IN POWER SW]

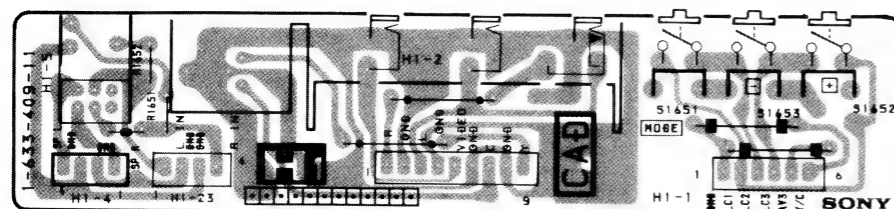
[TUNER, VIF, SIF] **A**

J1

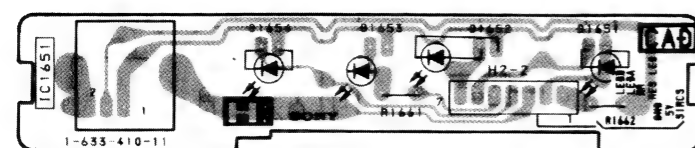
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

—Conductor Side—

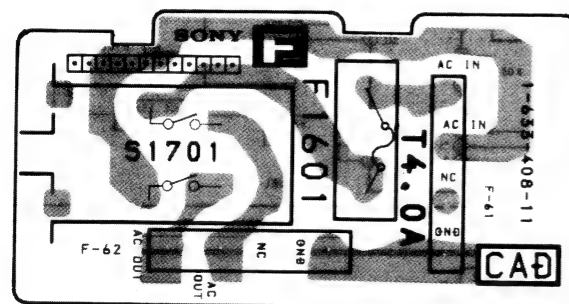
—H1 Board—



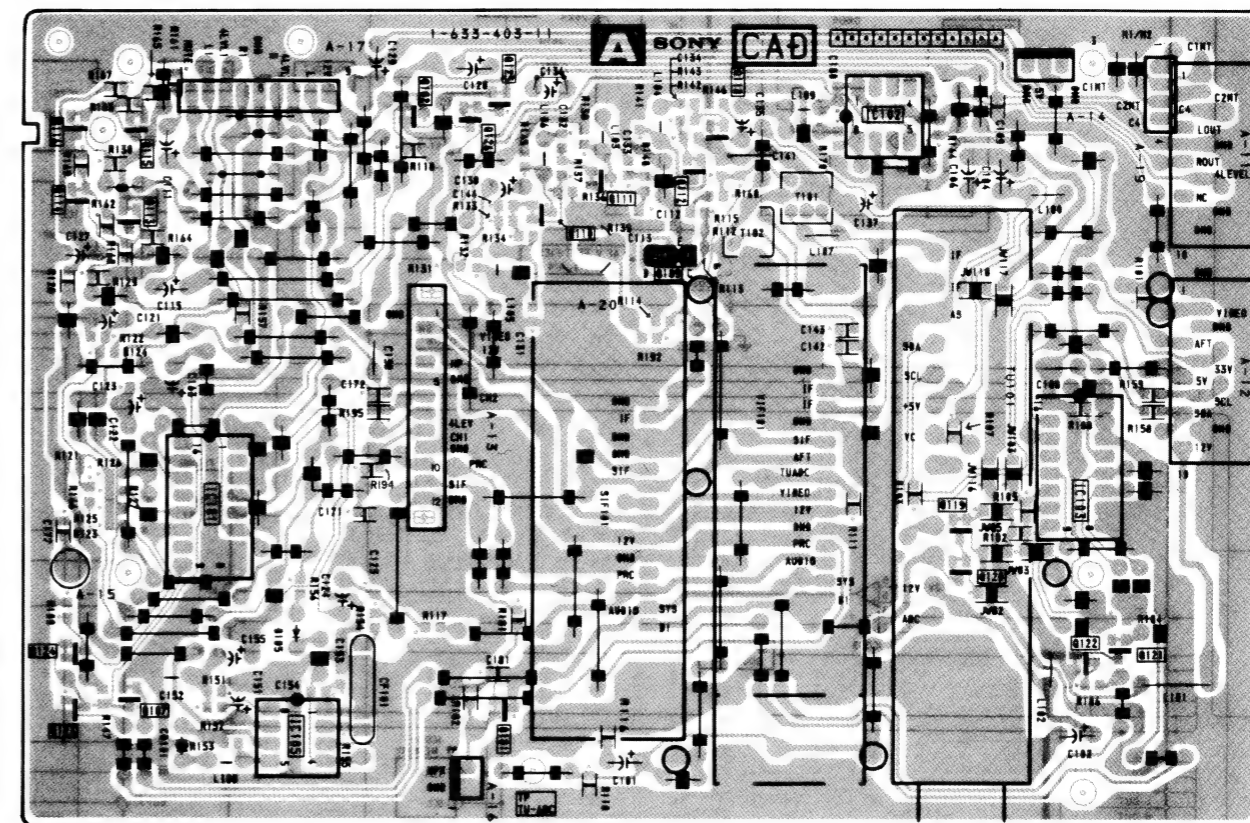
—H2 Board—



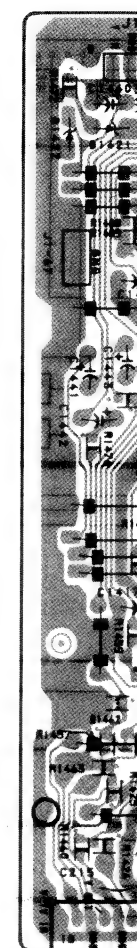
—F Board—



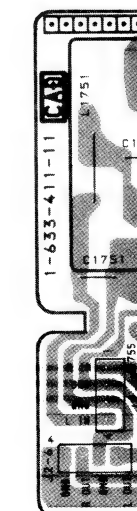
—A Board—



—J1 Board—



—J2 Board—



[TUNER, VIF, SIF]

A

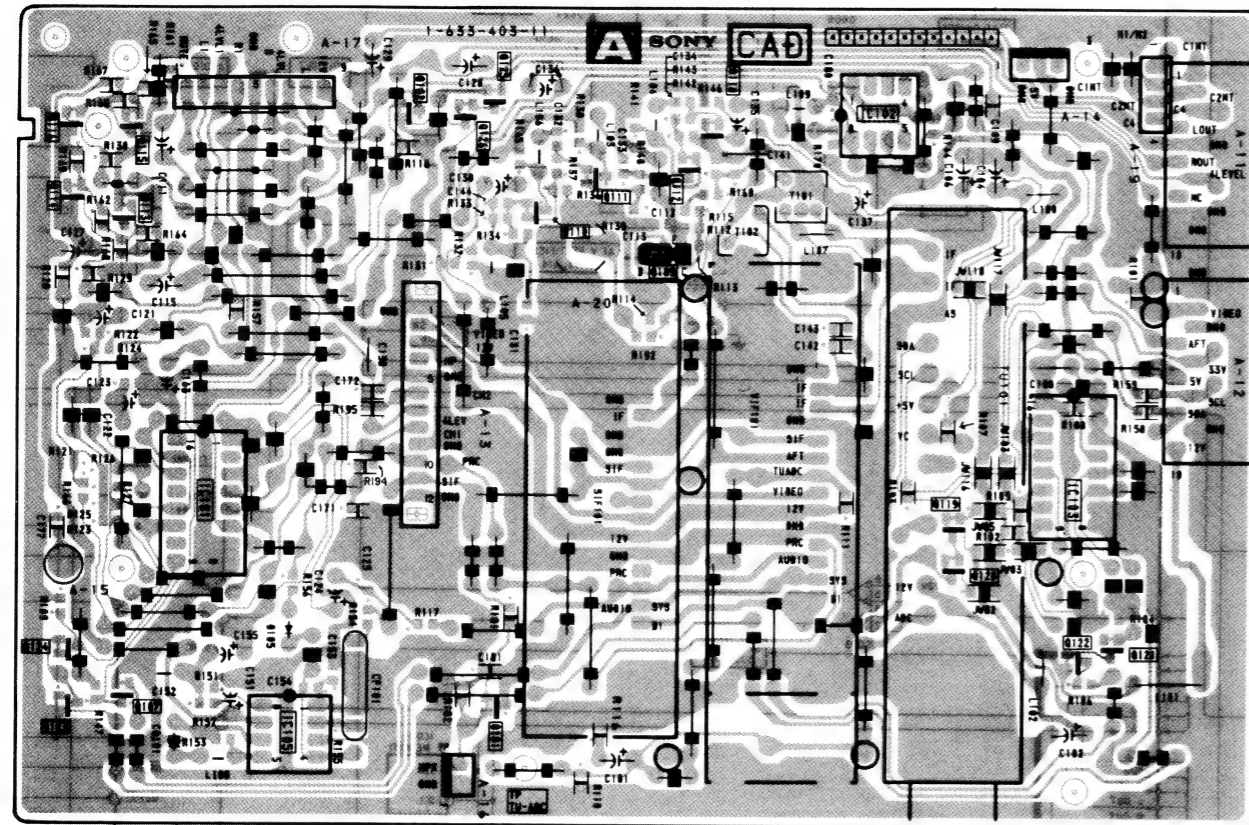
J1

AUDIO CONTROL, AV INPUT
Y/C INPUT, SCAR VIDEO OUT
EAST-WEST CORRECTION

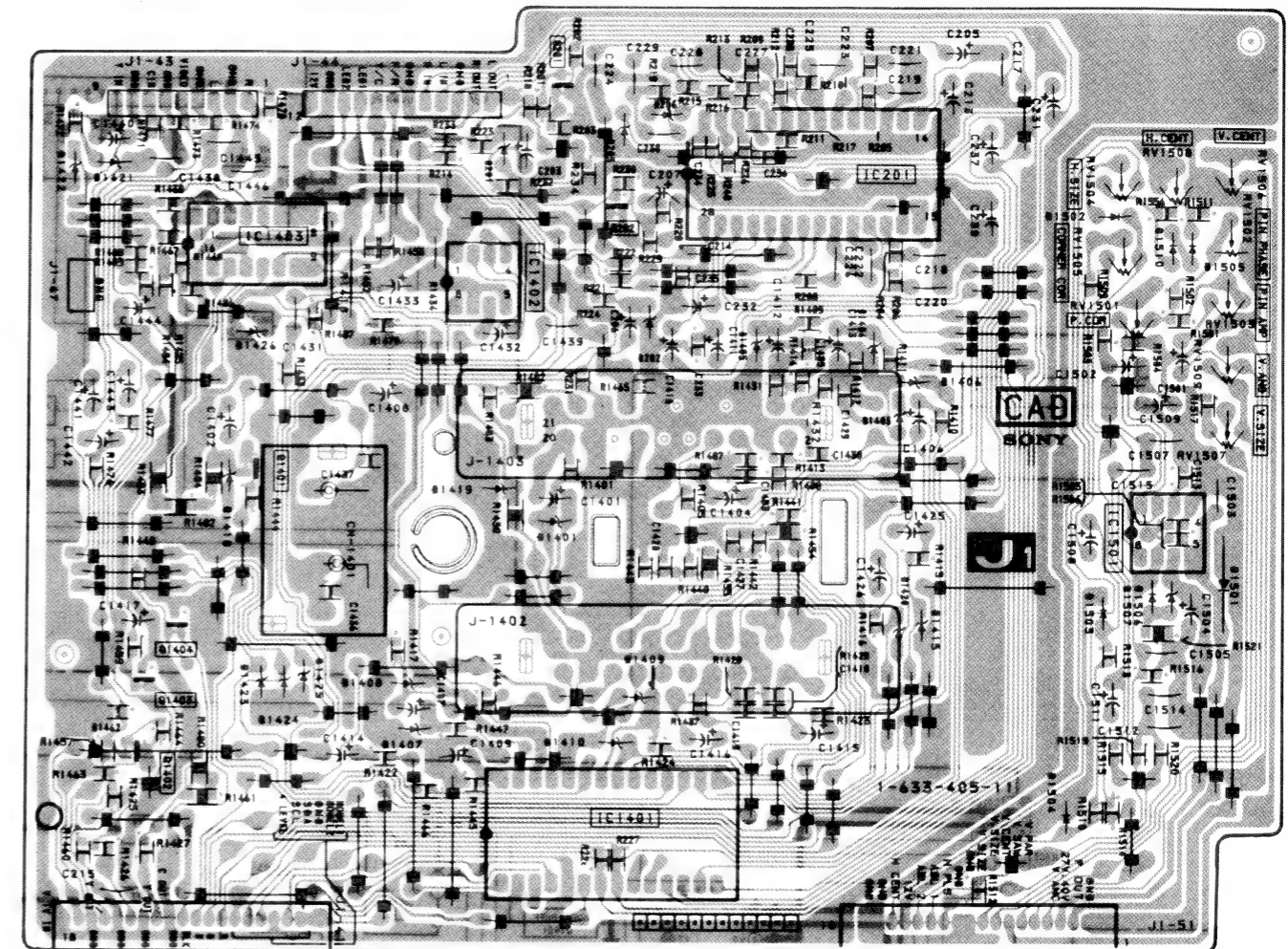
J2

SPEAKER
TERMINAL

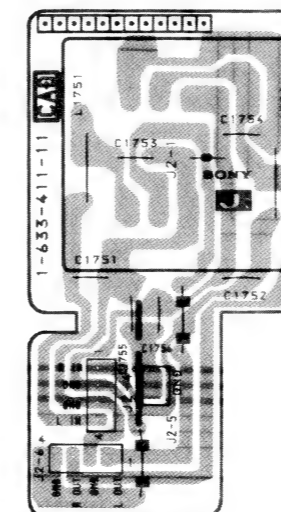
-A Board-



-J1 Board-

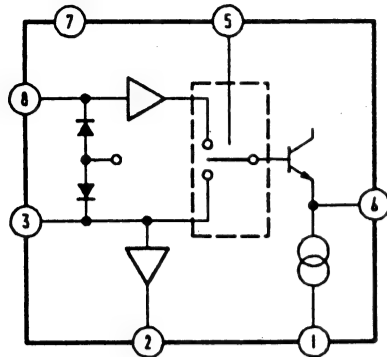


-J2 Board-

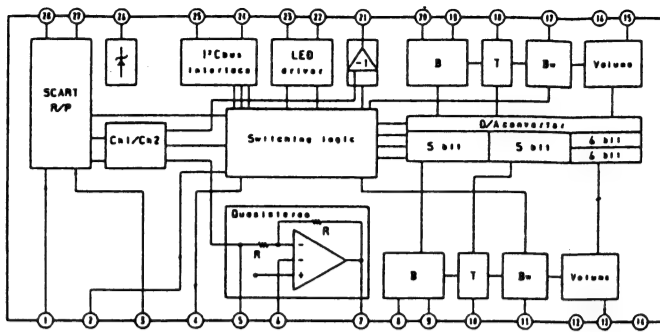


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

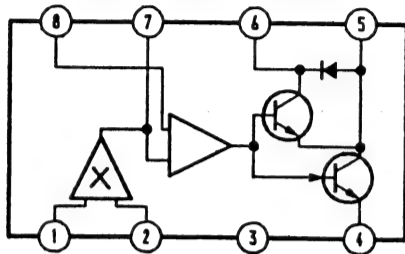
J1 BOARD IC1402 TEA2014A



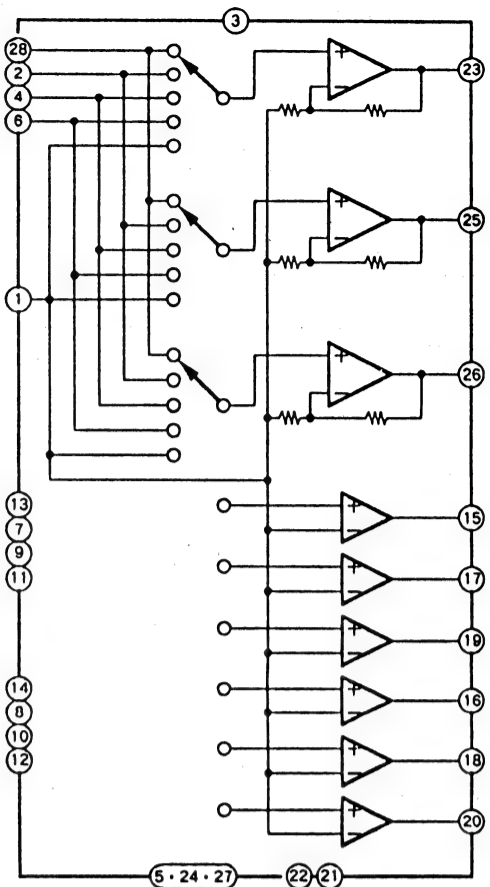
J1 BOARD IC201 TDA6200



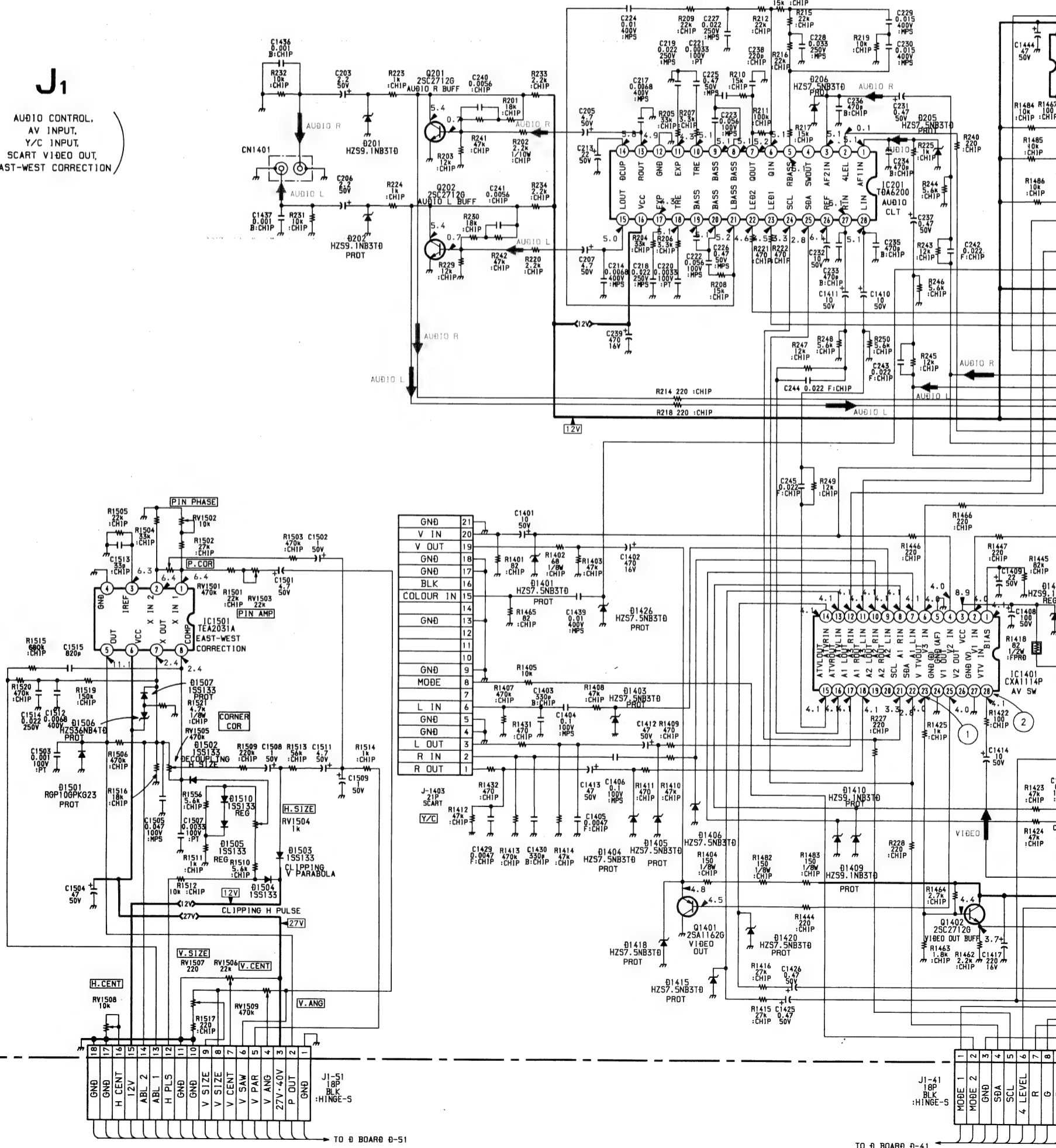
J1 BOARD IC1501 TEA2031



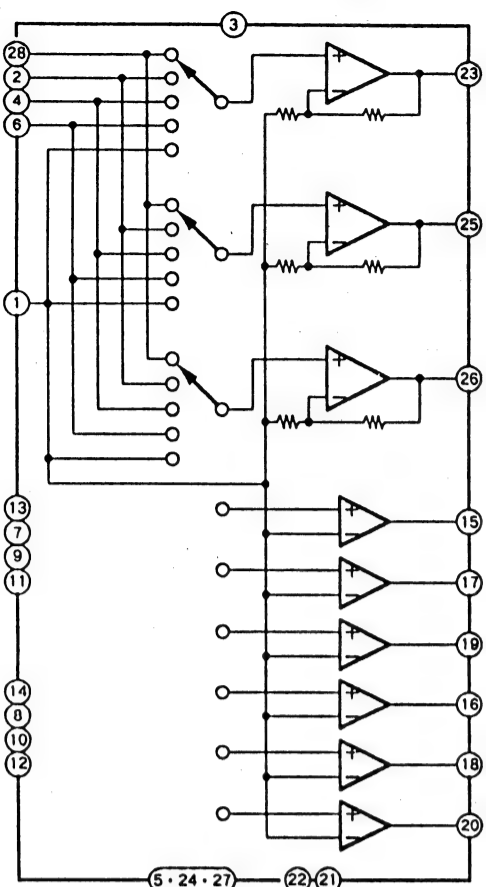
J1 BOARD IC1401 CXA1114P



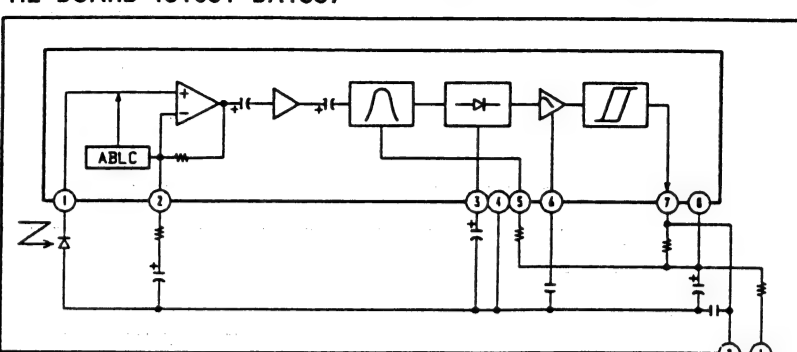
J1
AUDIO CONTROL,
AV INPUT,
Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION



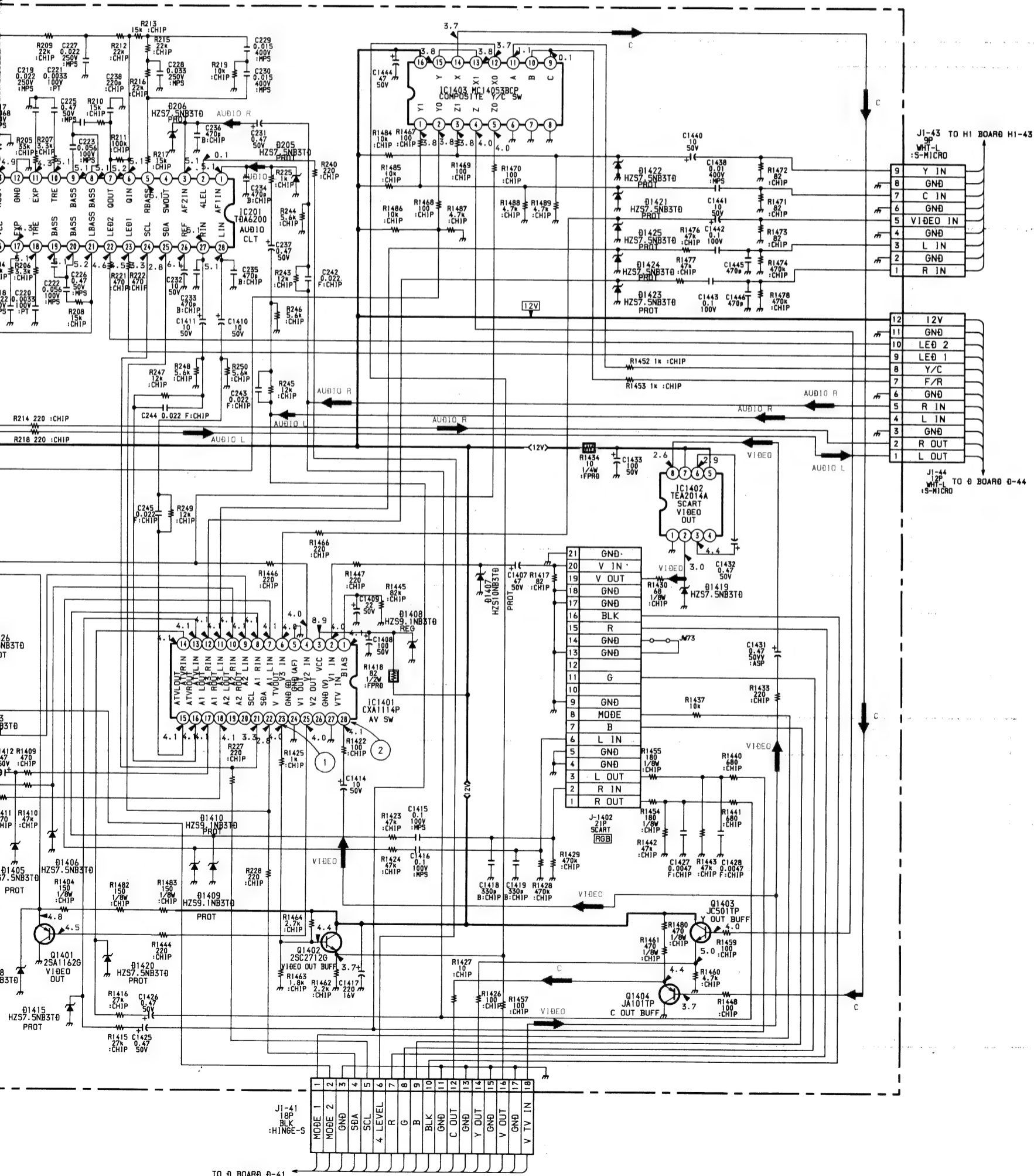
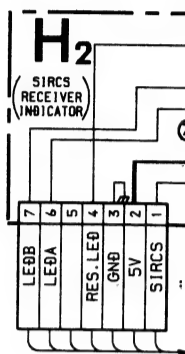
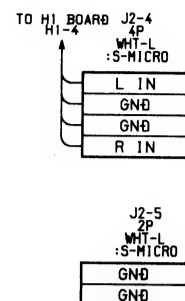
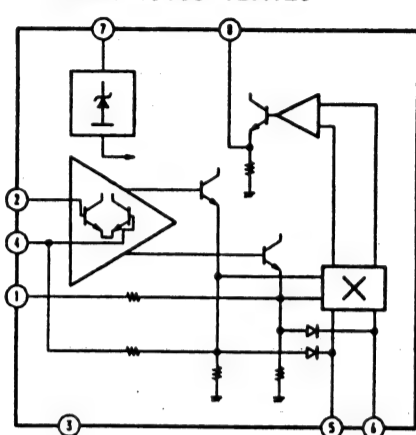
J1 BOARD IC1401 CXA1114P



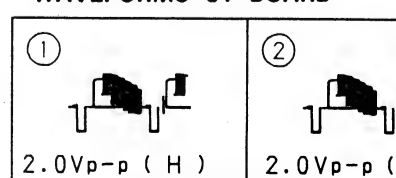
H2 BOARD IC1651 BA1387



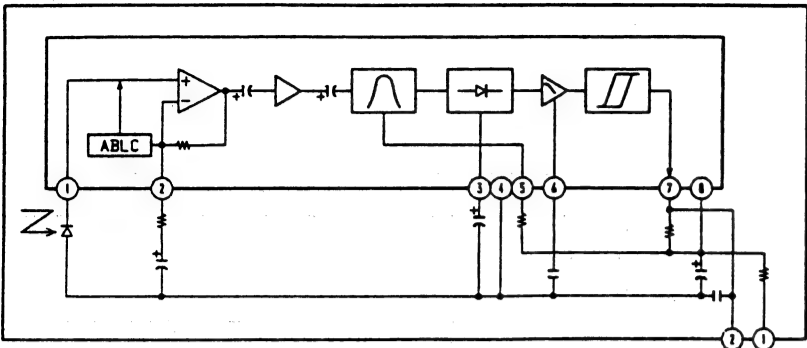
A BOARD IC105 TBA129



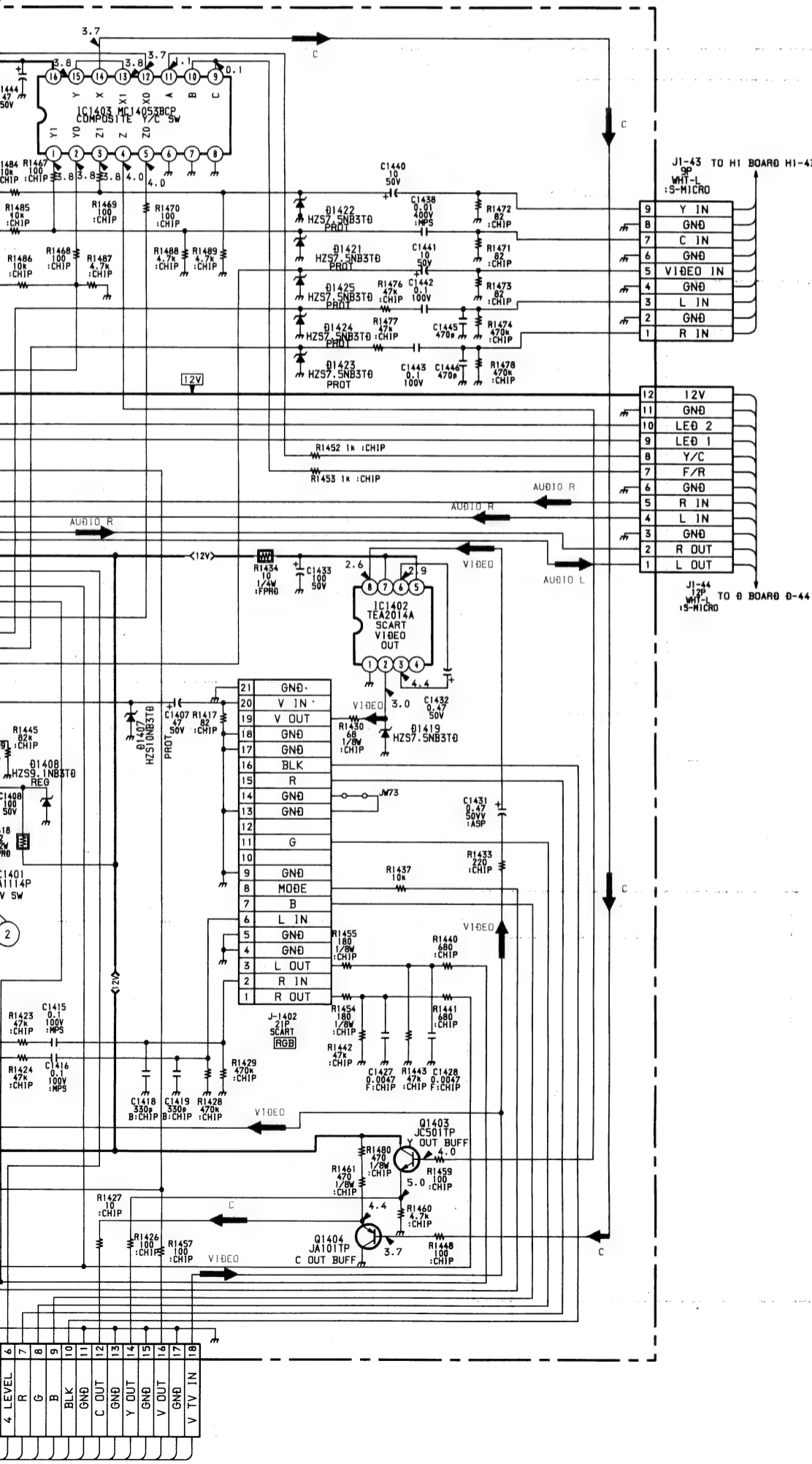
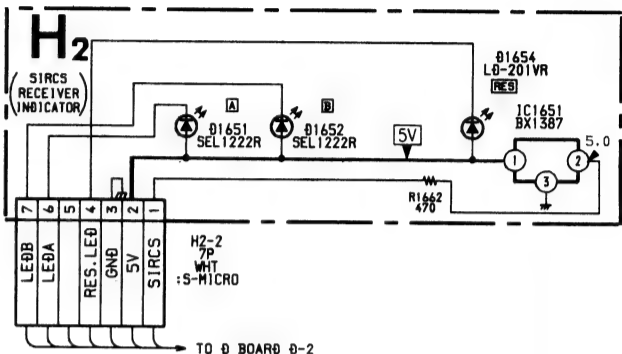
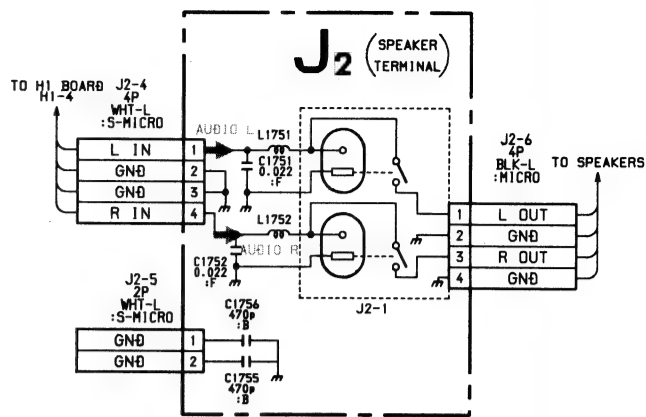
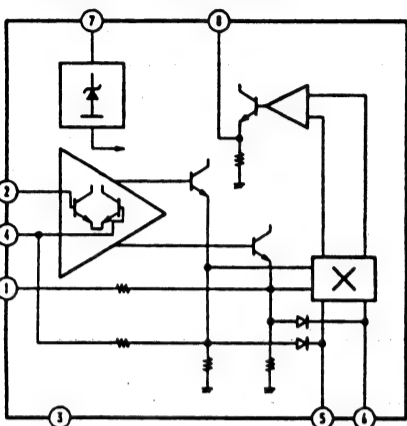
• WAVEFORMS J1 BOARD



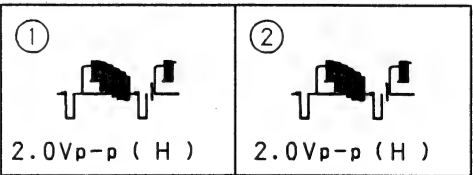
H2 BOARD IC1651 BA1387



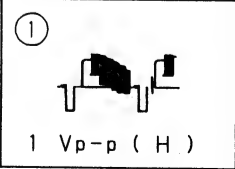
A BOARD IC105 TBA129

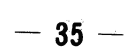


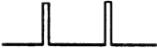
• WAVEFORMS J1 BOARD



• WAVEFORMS A BOARD





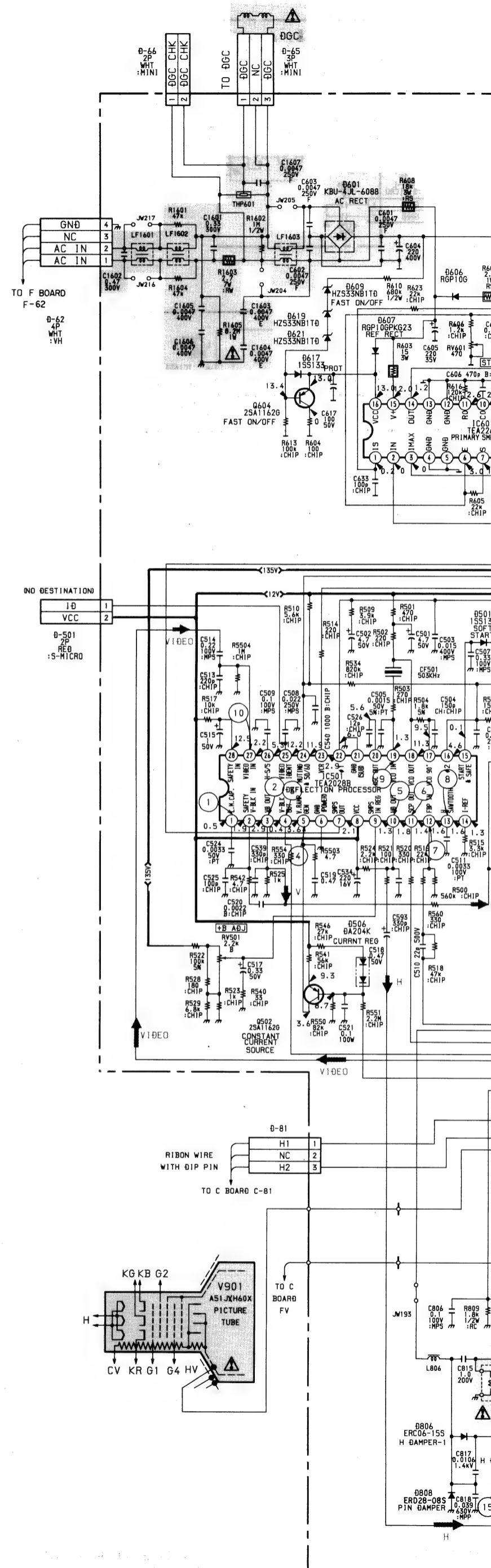
①  1.2Vp-p (H)	②  3.2Vp-p (V)	③  5.0Vp-p (V)
④  3.3Vp-p (V)	⑤  3.4Vp-p (H)	⑥  10.0Vp-p (H)
⑦  12.0Vp-p (H)	⑧  3.0Vp-p (H)	⑨  0.1Vp-p (503KHz)
⑩  1.0Vp-p (H)	⑪  0.56Vp-p (V)	⑫  2.0Vp-p (V)
⑬  29Vp-p (V)	⑭  48Vp-p (V)	⑮  2.8Vp-p (H)
⑯  230Vp-p (H)	⑰  11.5Vp-p (H)	⑱  800Vp-p (H)
⑲  165Vp-p (H)	⑳  6.8Vp-p (V)	㉑  48Vp-p (V)
㉒  1.2Vp-p (H)	㉓  9.0Vp-p (H)	㉔  3.6Vp-p (12MHz)
㉕  4.0Vp-p (H)	㉖  5.6Vp-p (H)	㉗  4.8Vp-p (V)

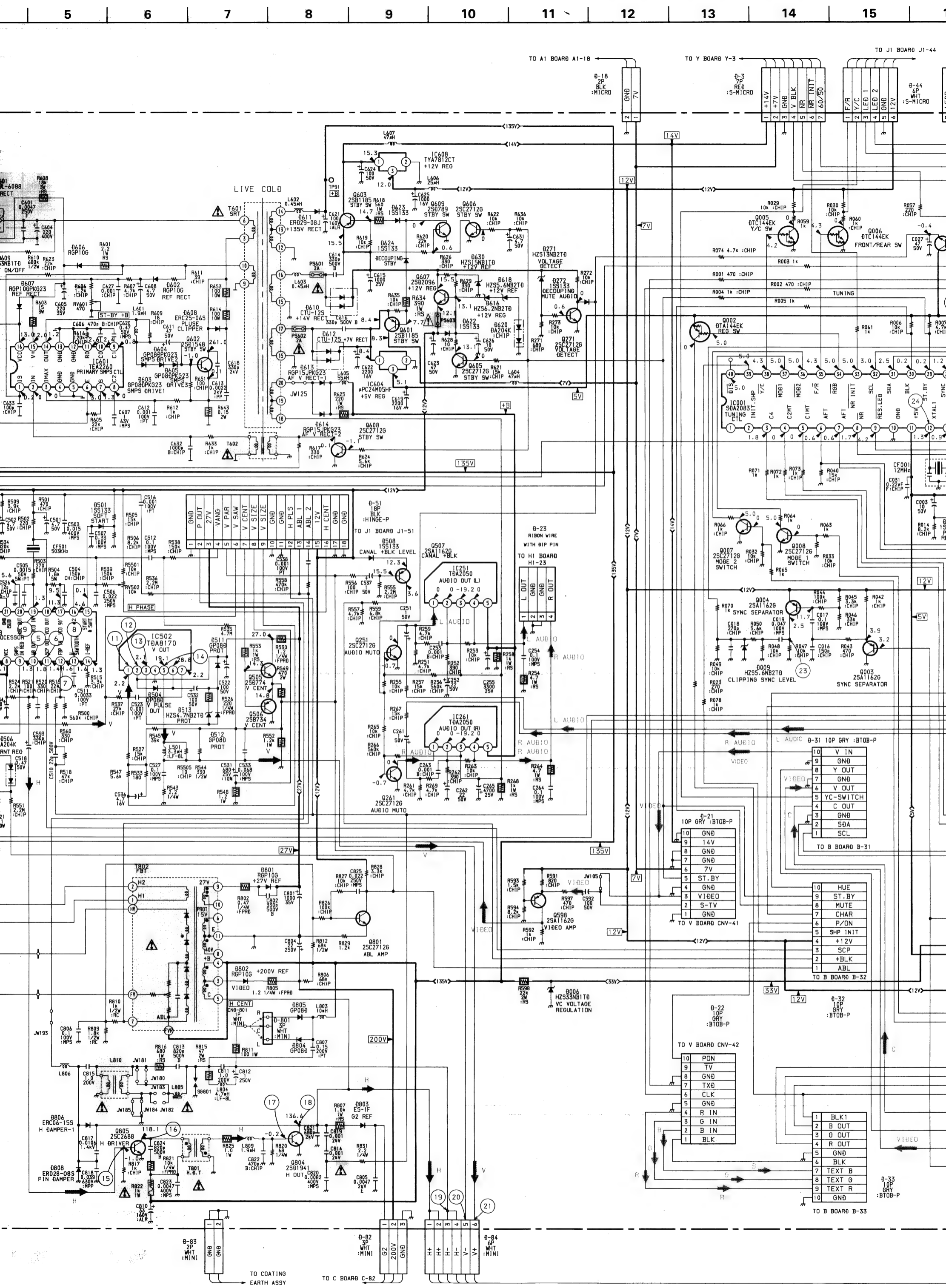
The block diagram illustrates the architecture of a video receiver. Key components and their interconnections include:

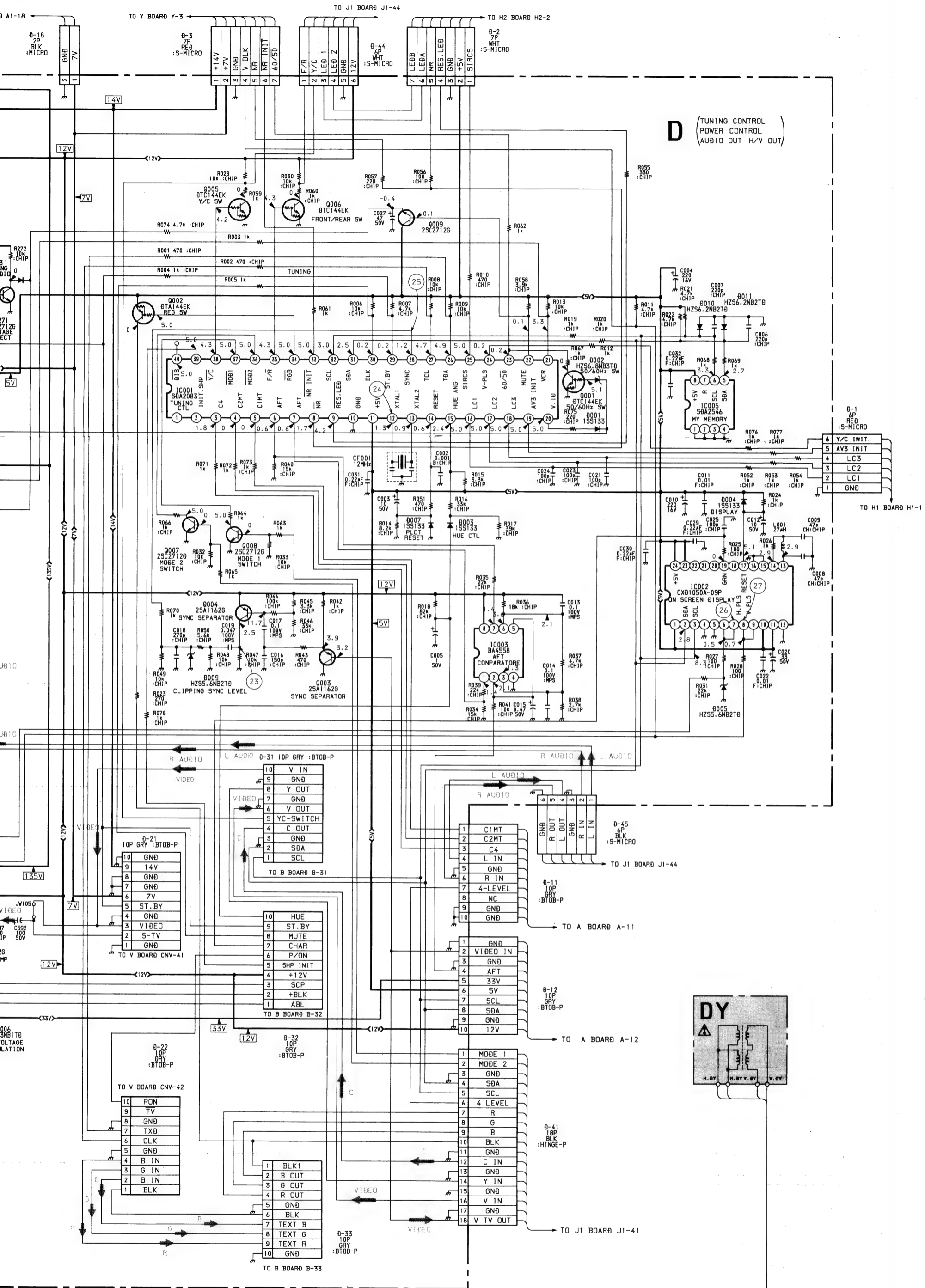
- Inputs:** H. SYNC, VCR INPUT, IDET., SUBST., AOC KEY PULSE, and SAFETY INPUT.
- Processing and Timing:**
 - VIDEO IDENTIFIC.** and **1 INHIBITION + TIME C SWITCHING** blocks receive inputs from the video path and control signals.
 - 50/60 Hz** and **FRAME TUNING IDENTIFICATION LOGIC** blocks handle frequency and frame rate identification.
 - HORIZONTAL LOGIC TIMING** and **LINE** blocks manage horizontal and line timing.
 - SAFETY LOGIC**, **SWITCH ON/OFF SAFETY CIRCUIT**, and **SOFT STARTING CIRCUIT** manage safety and startup sequences.
- Outputs and Reference:**
 - FRAME SAW-TOOTH OUTPUT**, **FRAME BLANK OUTPUT**, **FRAME SAFETY**, **S.M.P.S. OUTPUT**, **H. OUTPUT**, **REFER. CURRENT VOLTAGE**, **H. SAW-TOOTH GENERATOR**, and **S. SAND CASTLE** provide various system outputs.
 - SAFETY INPUT** is processed through an inverter and a delay block.
- Control and Reference:**
 - VCO 500KHz** provides a reference frequency.
 - 2** and **ALL** blocks represent additional control or reference signals.

The diagram uses a grid of points (H, V, I, O) for signal routing, with lines indicating the flow of data and control signals between the various functional blocks.

The block diagram illustrates a precision current source circuit. It features a 9V battery (pin 9) and a 10V regulator (pin 10). The circuit includes a TONSTART PROGRAM, VLF OSCILL, TON MAX MOD, REPEATED OVER CURRENT FLIP FLOP, VOLTAGE REF. INTERN. REGUL., VCC COMPARATOR, RC OSCILLATOR, SYNC. SWITCH, START STOP SHAPER, STOP FLIP FLOP, IC RECOPY, DELAY, +1 AMP., and -1 AMP. The circuit is powered by a 9V battery and a 10V regulator. The output is a precision current source.





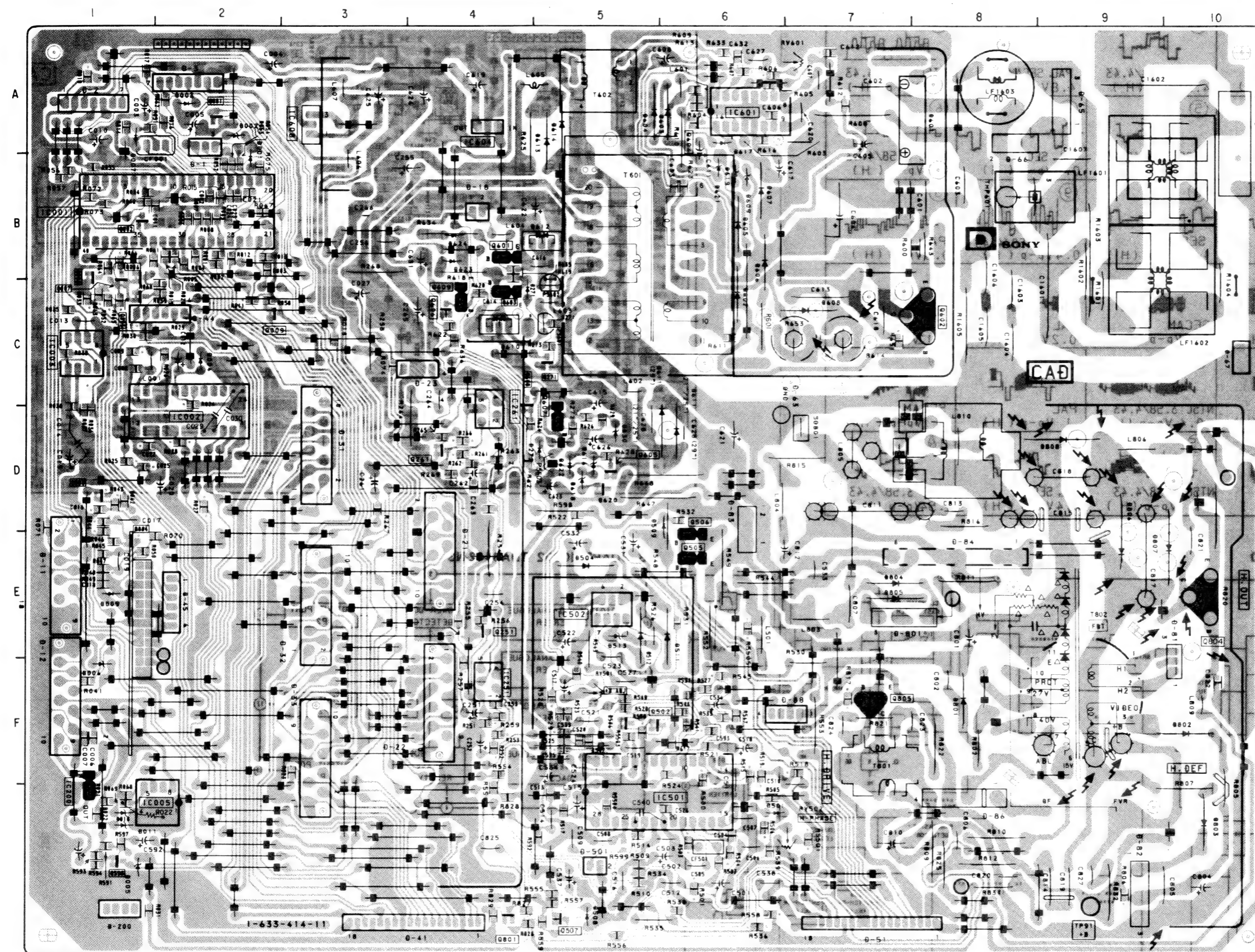


TUNING CONTROL,
POWER CONTROL,
AUDIO OUT, H/V OUT

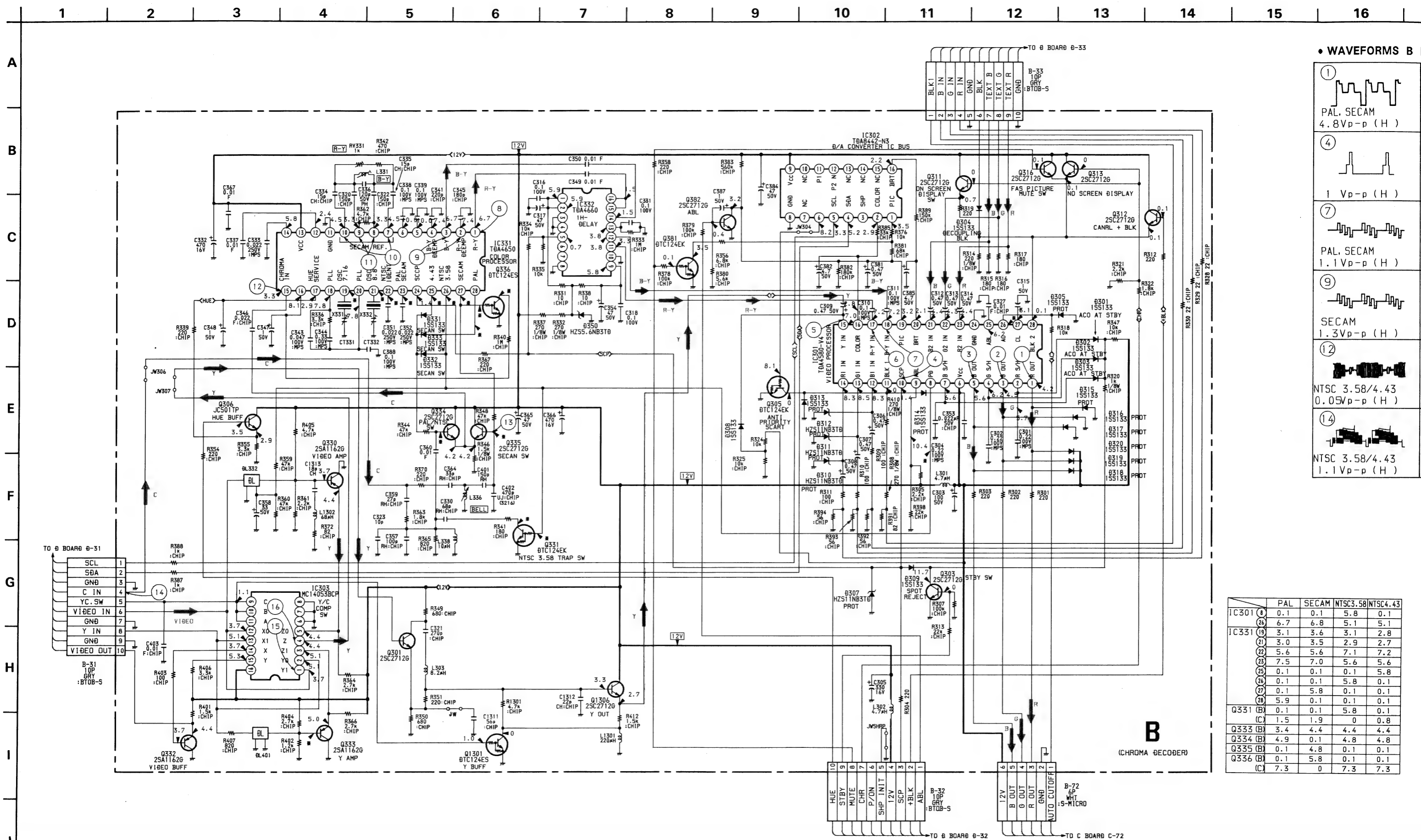
D

D

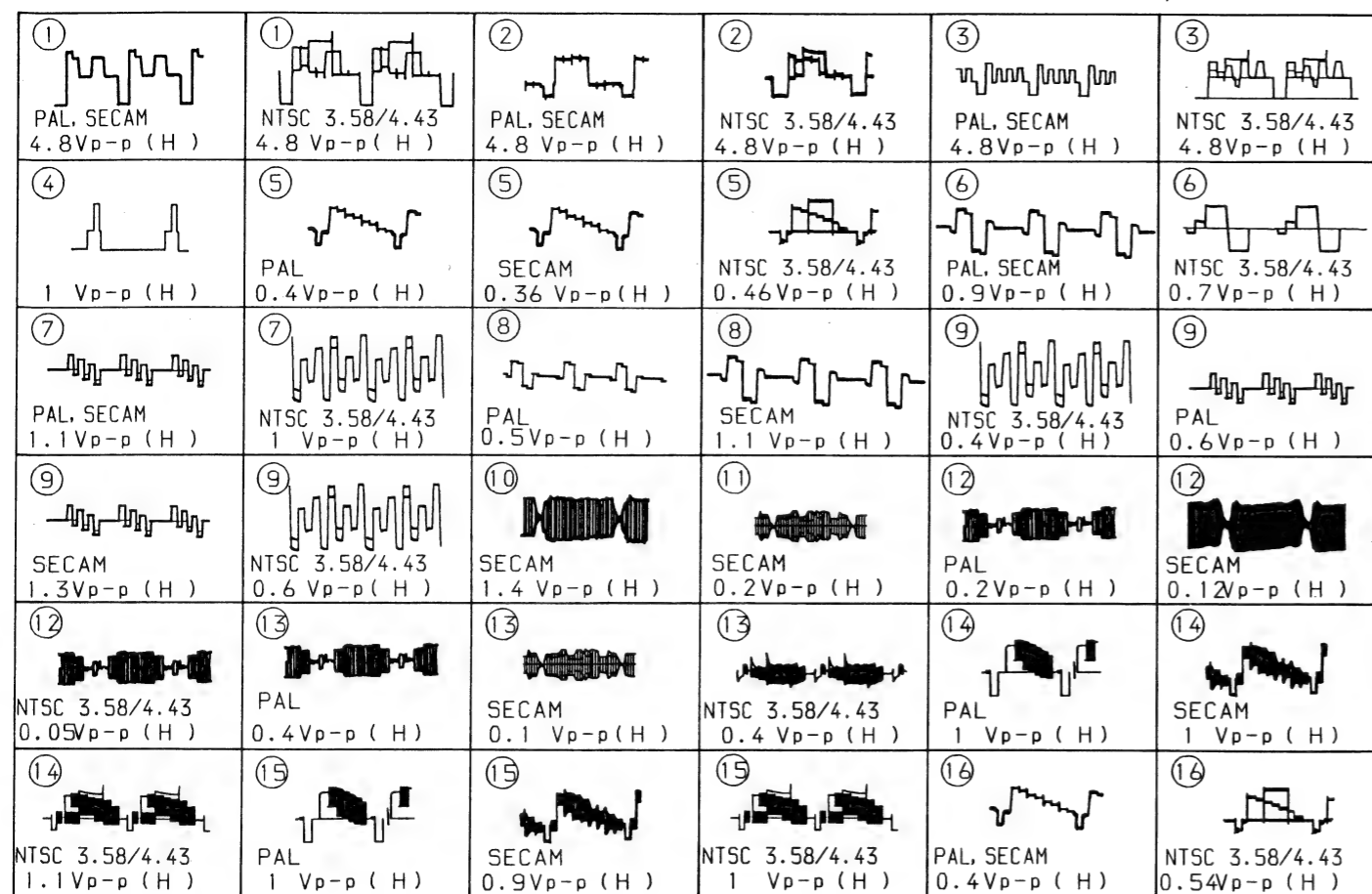
-D Board-



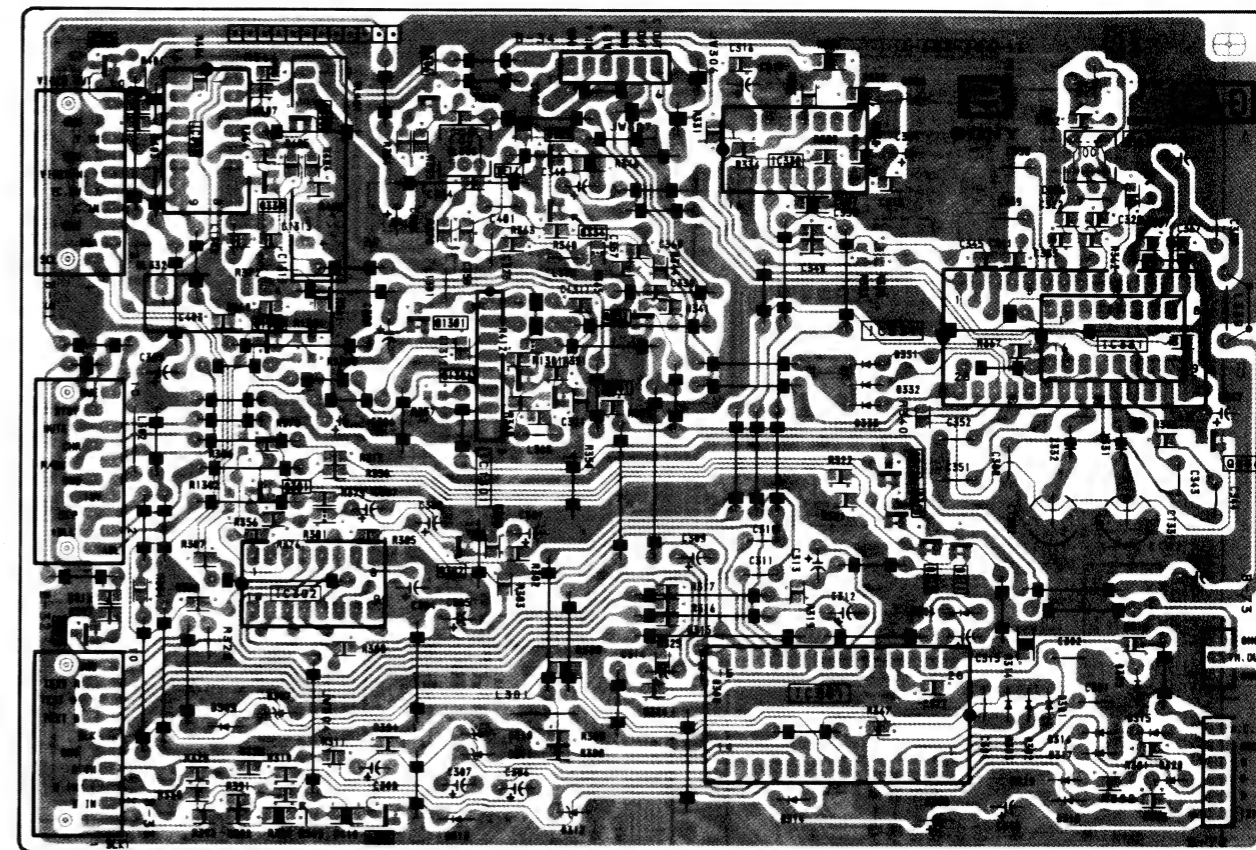
IC		D006	F-1
IC001	B-2	D007	A-1
IC002	D-2	D009	E-1
IC003	C-1	D010	G-1
IC005	G-2	D011	G-1
IC251	F-4	D271	C-4
IC261	C-4	D272	D-5
IC501	G-6	D501	G-6
IC502	E-5	D504	E-5
IC601	A-6	D506	F-5
IC604	A-4	D508	G-5
IC608	A-3	D509	D-6
TRANSISTOR		D511	E-6
Q001	A-2	D512	E-5
Q002	B-1	D513	E-5
Q003	D-1	D601	A-8
Q004	D-1	D602	C-6
Q005	C-1	D603	A-6
Q006	B-1	D604	A-5
Q007	C-1	D605	B-6
Q008	C-1	D606	B-6
Q009	C-2	D607	B-6
Q251	E-4	D608	C-7
Q261	D-4	D609	B-6
Q271	C-5	D610	C-4
Q502	F-6	D611	D-6
Q505	E-6	D612	B-5
Q506	E-6	D613	A-5
Q507	G-5	D614	A-5
Q598	G-1	D616	D-5
Q601	B-4	D617	A-6
Q602	C-8	D618	D-5
Q603	C-4	D619	B-6
Q604	A-6	D620	D-5
Q605	D-5	D621	B-6
Q606	C-4	D622	D-5
Q607	D-5	D623	B-4
Q608	C-4	D624	B-4
Q609	C-4	D630	D-5
Q801	G-4	D801	F-8
Q804	E-10	D802	F-10
Q805	F-7	D803	G-10
DIODE		D804	E-7
D001	B-2	D805	E-7
D002	A-2	D806	E-9
D003	A-2	D807	E-10
D004	C-2	D808	D-9
D005	G-1	VARIABLE RESISTOR	
		RV501	F-5
		RV502	G-7
		RV601	A-7



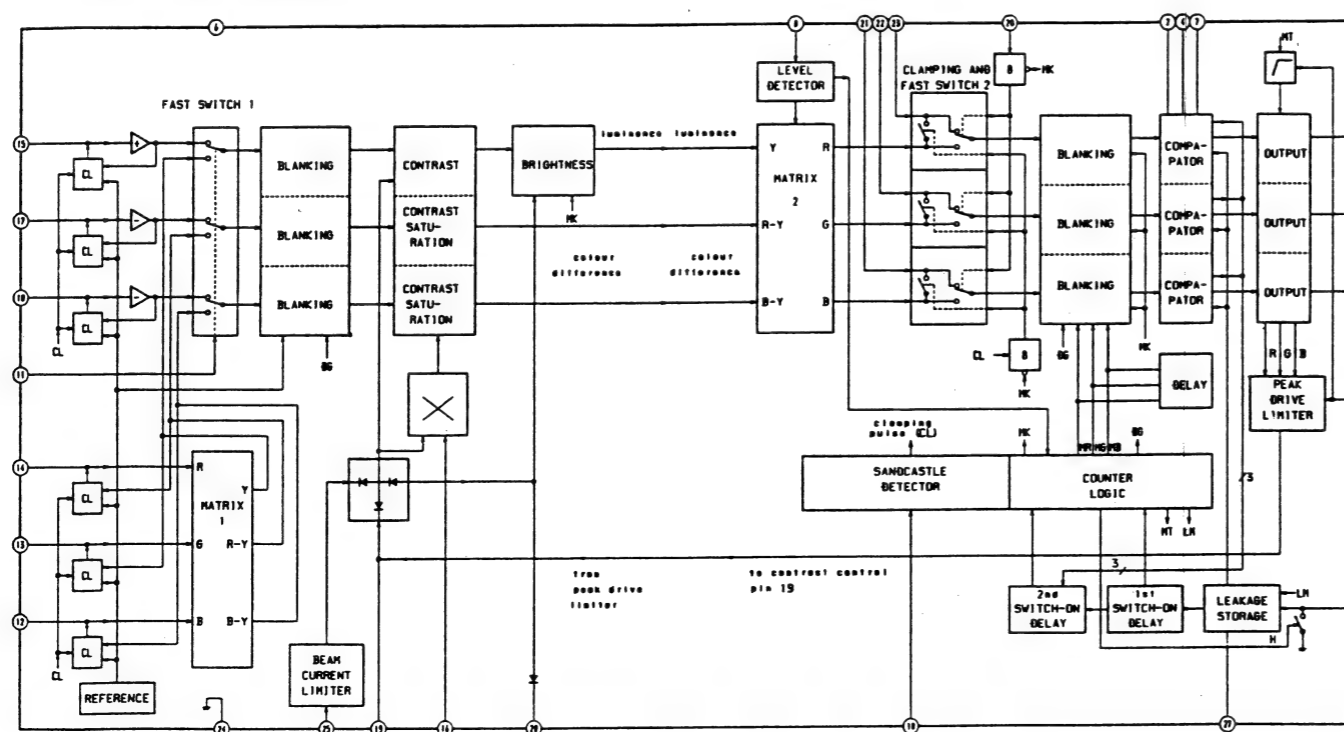
• WAVEFORMS B BOARD



-B Board-

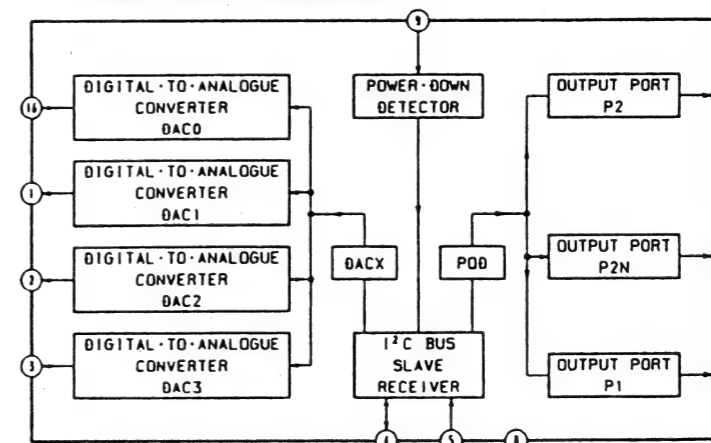


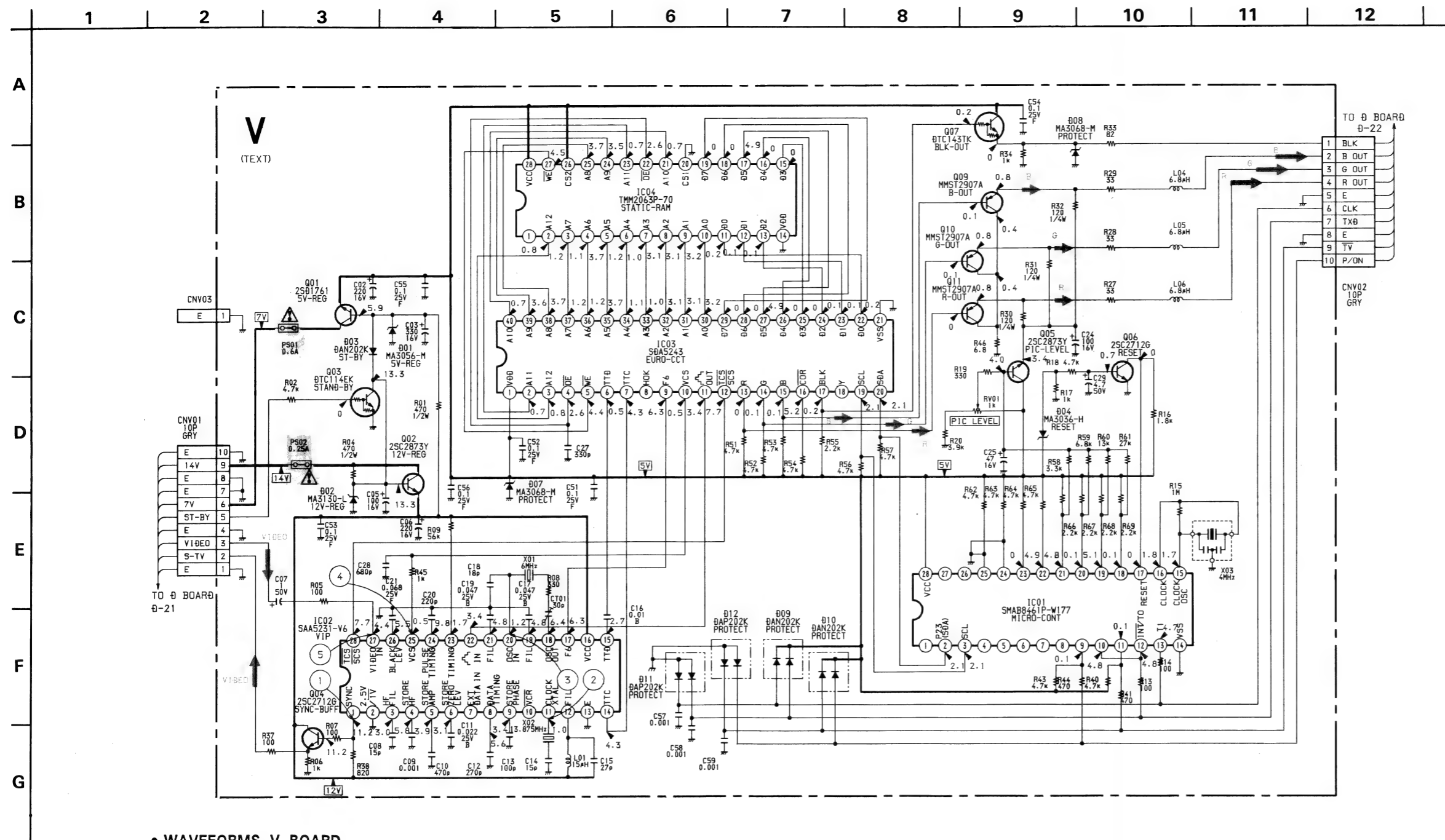
B BOARD IC301 TDA4580



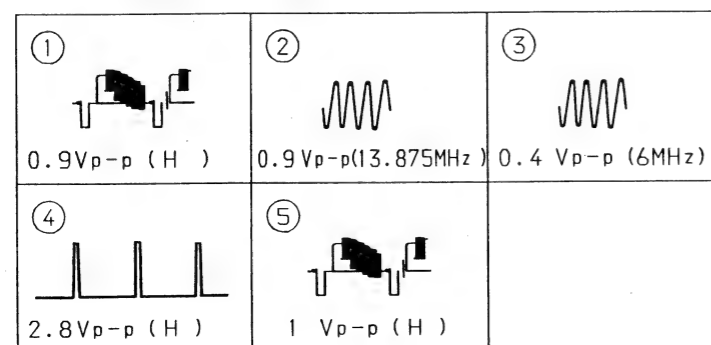
	PAL	SECAM	NTSC3.58	NTSC4.43
01 (B)	0.1	0.1	5.8	0.1
26 (C)	6.7	6.8	5.1	5.1
31 (B)	3.1	3.6	3.1	2.8
21 (C)	3.0	3.5	2.9	2.7
22 (B)	5.6	5.6	7.1	7.2
23 (B)	7.5	7.0	5.6	5.6
25 (B)	0.1	0.1	0.1	5.8
26 (B)	0.1	0.1	5.8	0.1
27 (B)	0.1	5.8	0.1	0.1
28 (B)	5.9	0.1	0.1	0.1
31 (B)	0.1	0.1	5.8	0.1
31 (C)	1.5	1.9	0	0.8
33 (B)	3.4	4.4	4.4	4.4
34 (B)	4.9	0.1	4.8	4.8
35 (B)	0.1	4.8	0.1	0.1
36 (B)	0.1	5.8	0.1	0.1
36 (C)	7.3	0	7.3	7.3

B BOARD IC302 TDA8442-N3

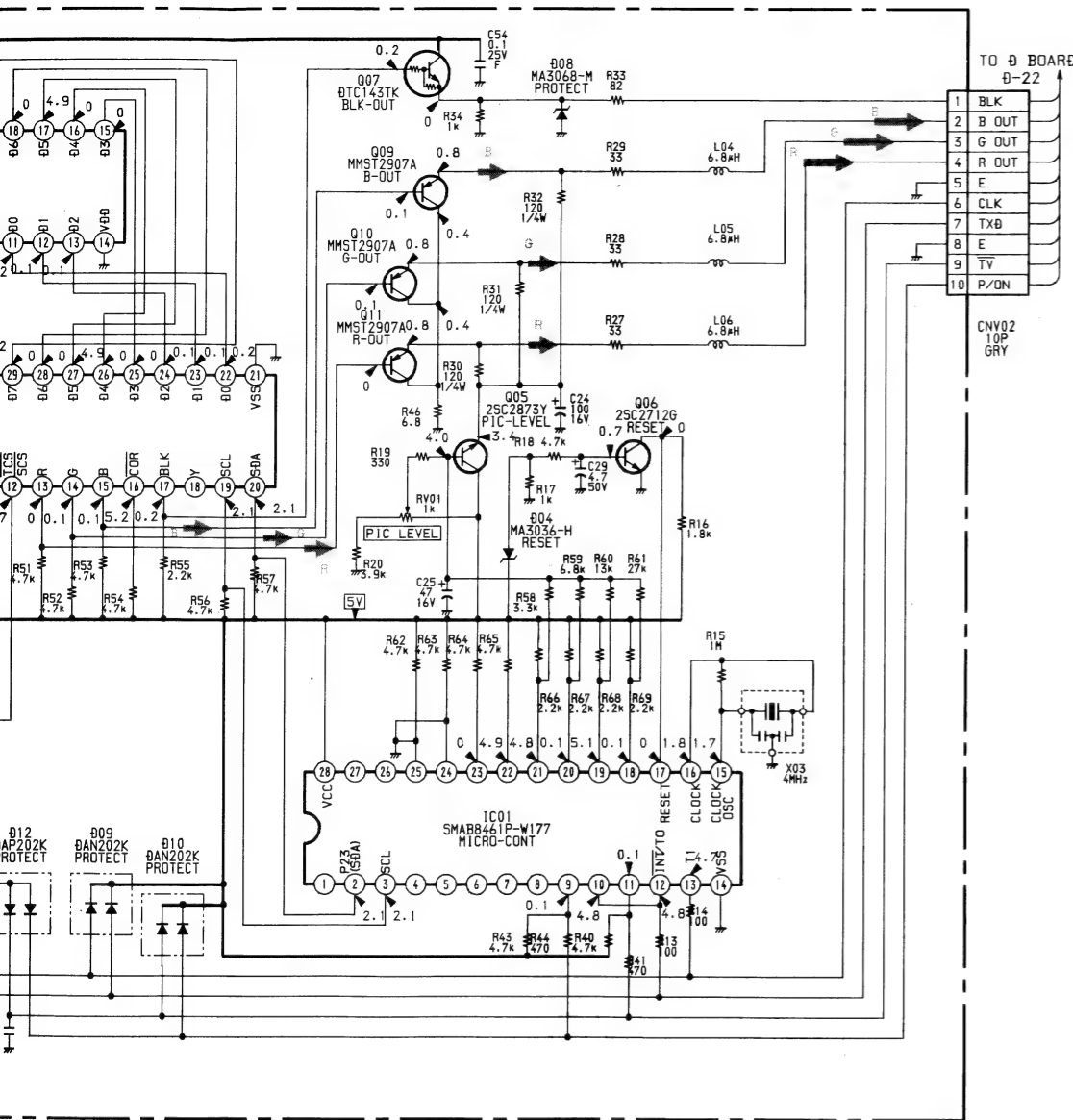




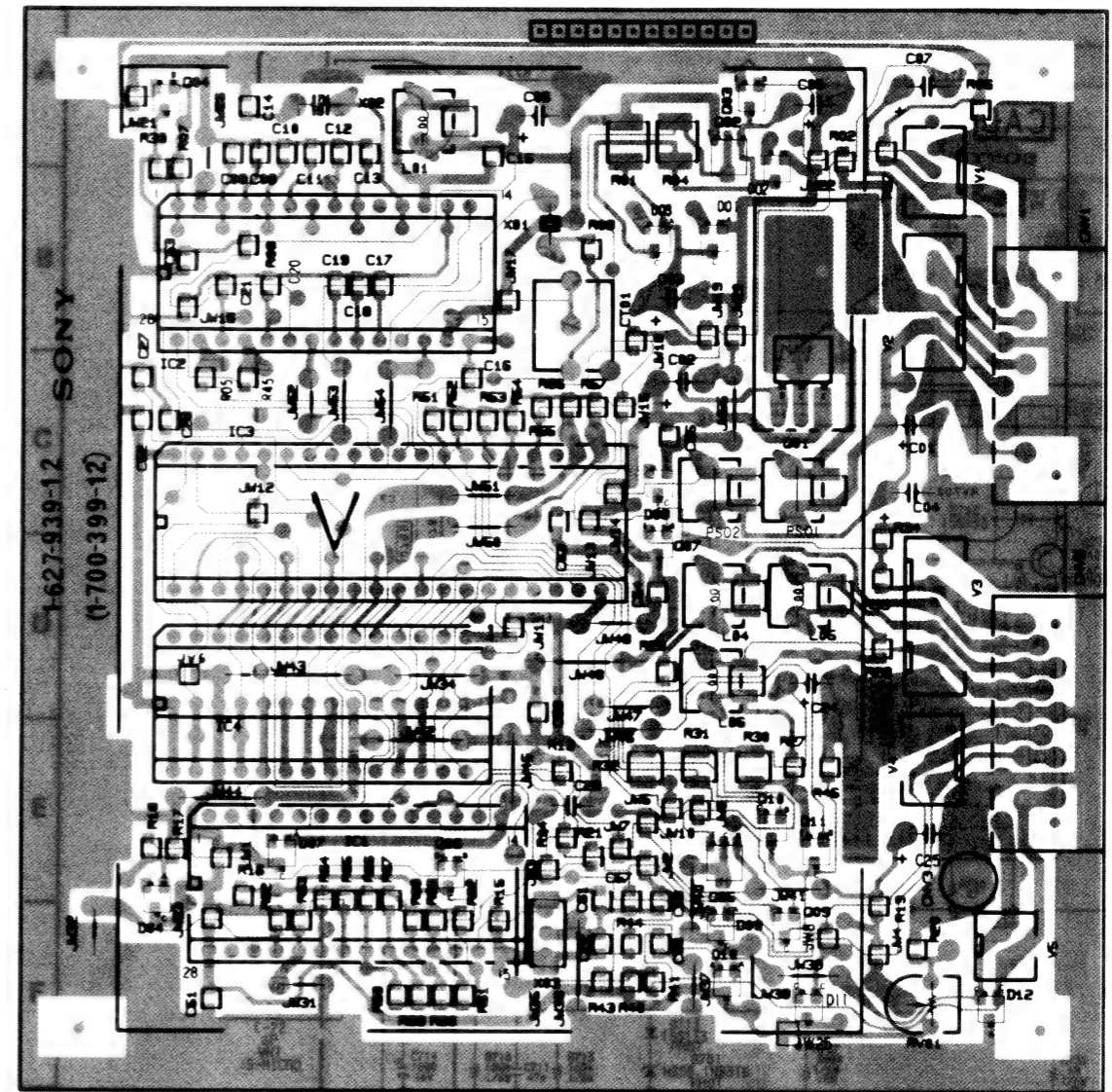
• WAVEFORMS V BOARD



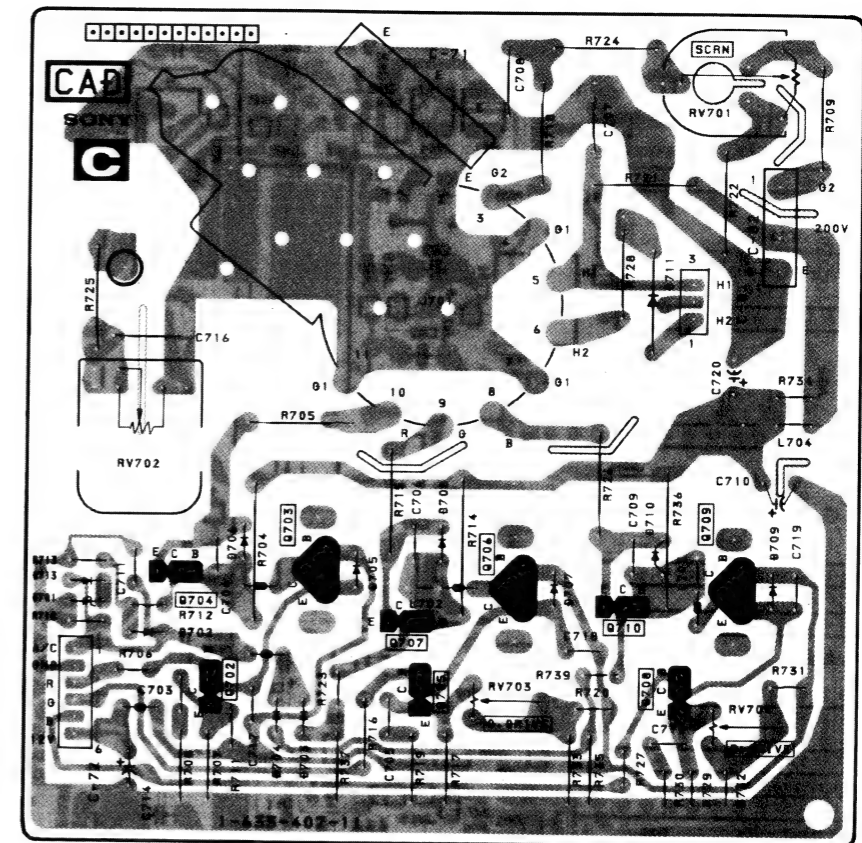
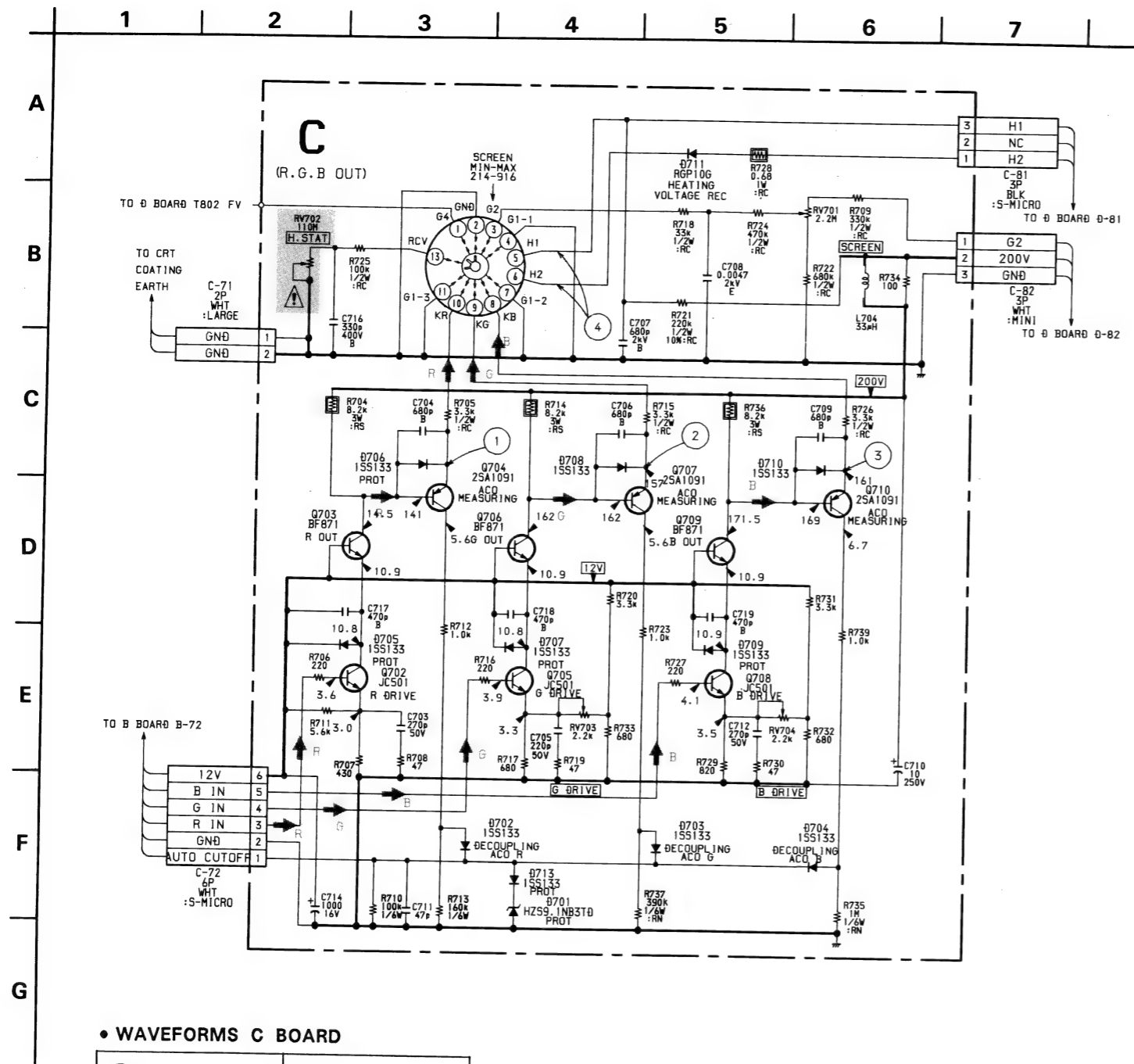
7 8 9 10 11 12



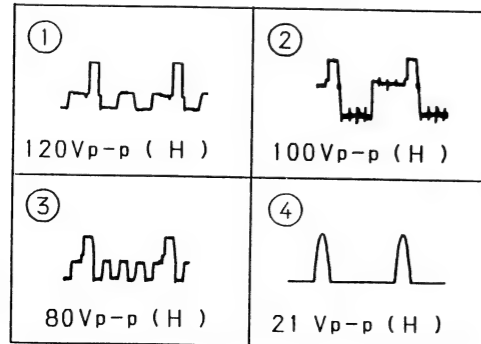
- V Board -



C [R · G · B OUT]

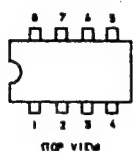


- **WAVEFORMS C BOARD**



5-4. SEMICONDUCTORS

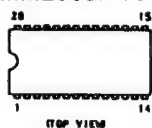
BA4558
SDA2546
TBA129
TEA2014
TEA2031A
μPC4558C



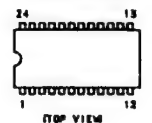
BX1387



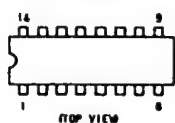
CXA1114P
SAA5231-V6
SMAB8461P-W177
TC5563APL
TDA4580
TDA4650
TDA6200
TEA2028B
TMM2063P-70



CXD1050A
TD6710AN



MC14053BCP
PCF8574
TC4049BP
TC4053BP
TDA4510/V6
TDA4660
TDA8442-N3
TEA2260



SDA2083
SDA5243



TA8662N



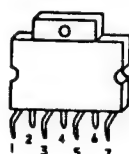
TC6011N



TDA2050



TDA8170



TYA7812CT
μPC24M05HF



BF871



DTA144EK
DTC114EK
DTC124EK
DTC143TK
DTC144EK
MMST2907A
2SA1162G
2SC2712



DTA144ES
DTC124ES
DTC144ES
2SA1162



JA101
JC501
2SA1091
2SD789



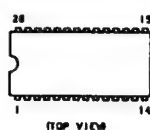
2SB734
2SD773
2SD774



2SB1185
2SD1761



2SC2216



2SC2688



2SC2873Y



2SD1548-LB
2SD1941



2SD2096



CTU-12S



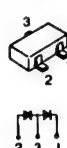
DAN202K



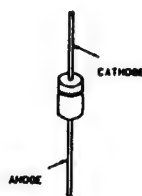
DAP202K



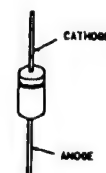
DA204K



ERC06-15S
ERC25-06S



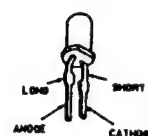
ERD28-08S
ES1F
GP08D
RGP10G
RGP15J



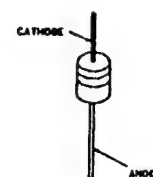
ERD29-08J



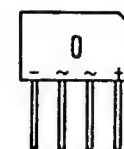
LD-201VR



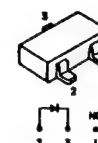
HZS10NB3TD
HZS11NB3TD
HZS13NB2TD
HZS15NB1TD
HZS33NB1TD
HZS36NB4TD
HZS4.7NB2TD
HZS5.6NB2TD
HZS5.6NB3TD
HZS6.2NB2TD
HZS6.8NB3TD
HZS7.5NB3TD
HZS9.1NB3TD
RD5.6ES-B2
1SS133



KBU4JL-6088



MA3036H
MA3056M
MA3068M
MA3130L



MC911



MC921



SECTION 6
EXPLODED VIEWS

NOTE:

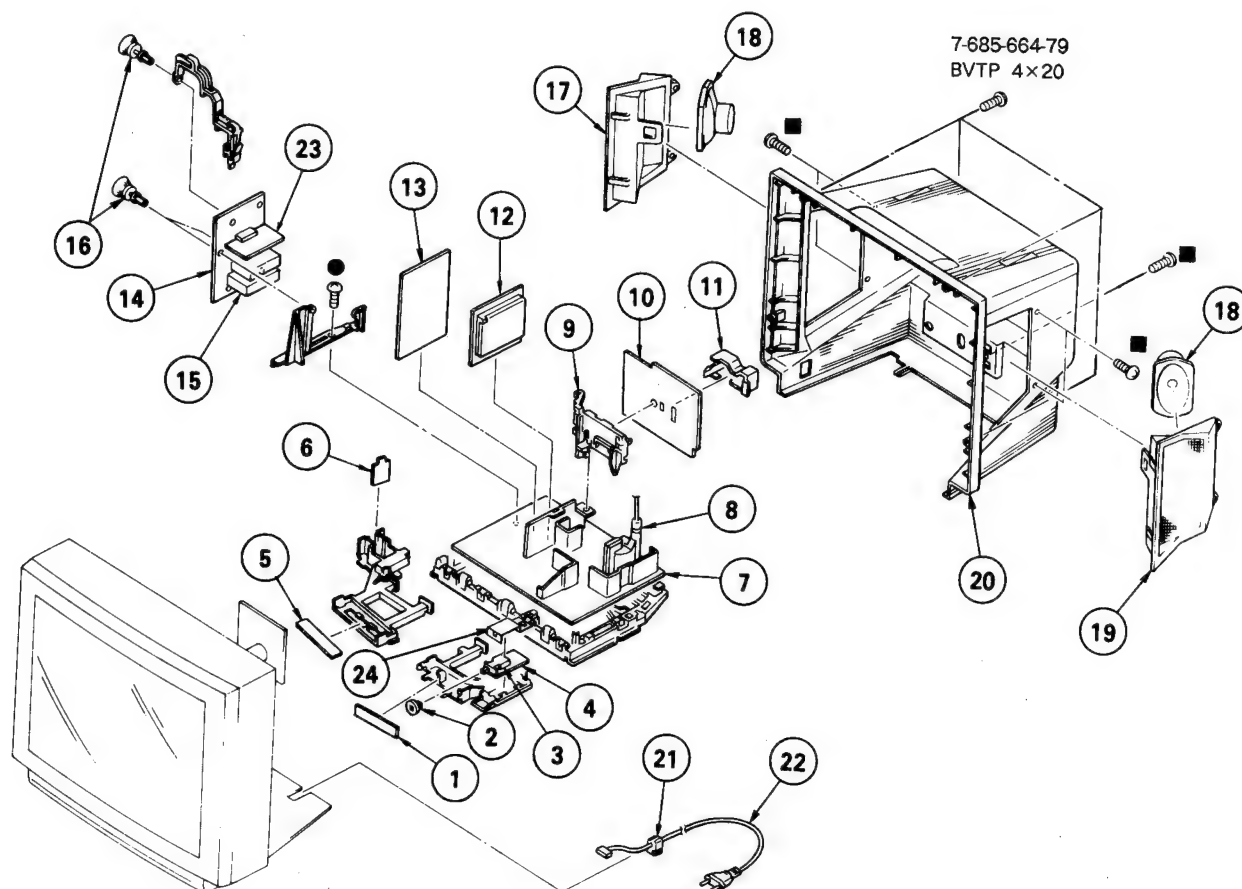
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

6-1. CHASSIS

● : BVTP 3×12 7-685-648-79

■ : BVTP 4×16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*I-633-410-11	H2 BOARD		13	*A-1621-010-A	B BOARD, COMPLETE	
2	4-386-611-01	COVER, SWITCH		14	*A-1632-005-A	A BOARD, COMPLETE	
3	Δ I-571-433-11	SWITCH, PUSH (AC POWER)		15	Δ I-465-301-11	TUNER, BT (UV-816(PLL))	
4	*I-633-408-11	F BOARD		16	4-386-618-01	RIVET, T TYPE	
5	*I-633-409-11	H1 BOARD		17	X-4200-025-1	BAFFLE (L) ASSY, BOARD	
6	*I-633-411-11	J2 BOARD		18		SPEAKER	
7	*A-1642-010-A	D BOARD, COMPLETE		19	X-4200-026-1	BAFFLE (R) ASSY, BOARD	
8	Δ I-439-416-11	TRANSFORMER ASSY. FLYBACK (UX-1600)		20	4-200-158-01	COVER, REAR	
9	*4-386-624-11	BRACKET, J		21	Δ 4-389-201-02	HOLDER, AC CORD	
10	*A-1651-014-A	J1 BOARD, COMPLETE		22	Δ I-575-487-11	CORD, POWER (WITH NOISE FILTER)	
11	4-200-014-01	BRACKET, TERMINAL		23	*A-1654-003-A	IFG BOARD, COMPLETE	
12	*A-1347-031-A	V BOARD, COMPLETE		24	4-200-274-01	COVER, POWER SWITCH	

SECTION 7
ELECTRICAL PARTS LIST

V

NOTE:

The components identified by shading and mark Δ are critical for safety.

Replace only with part number specified.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

CAPACITORS

• MF : μ F, PF : μ F

COILS

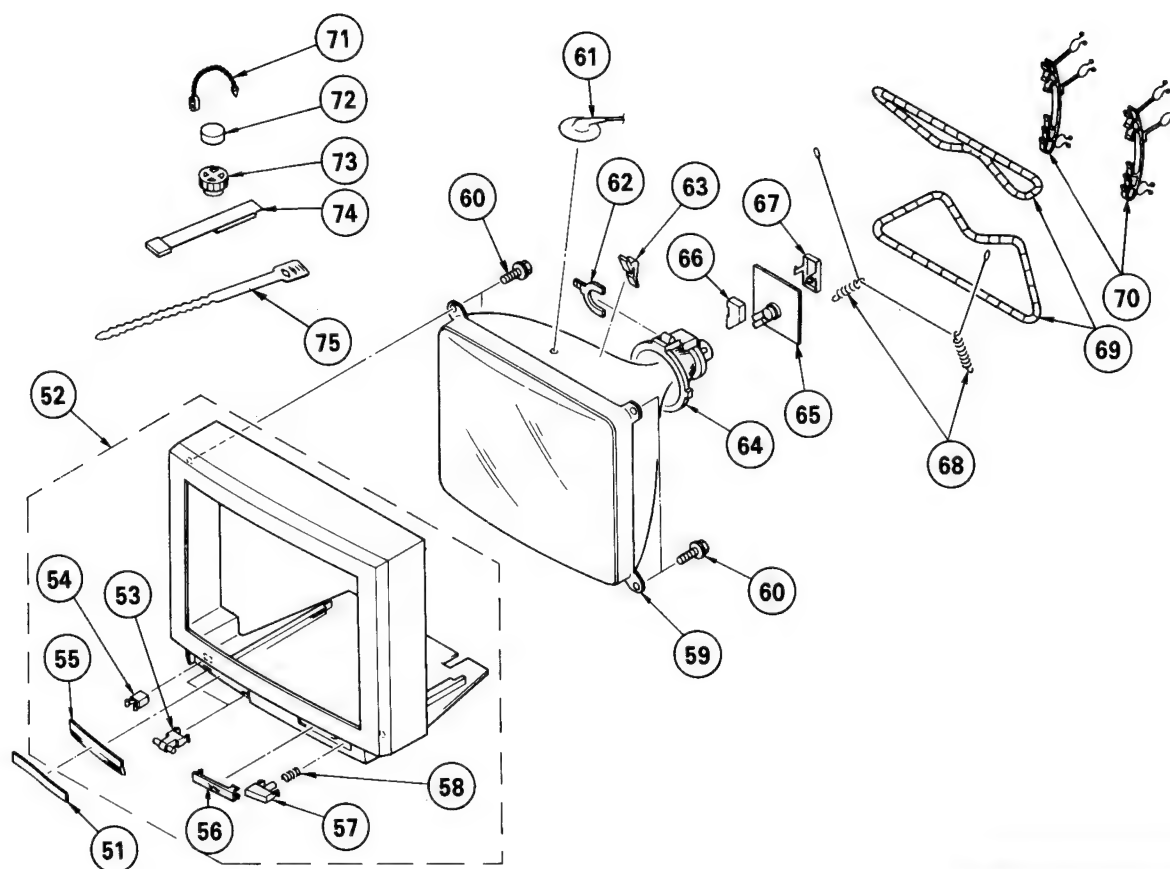
• MMH : mH, UH : μ H

RESISTORS

• All resistors are in ohms
• F : nonflammable

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1347-031-A	V BOARD, COMPLETE *****				<DIODE>	
	*4-380-699-01	CASE (UPPER LID), SHIELD, A1		D01	8-719-105-91	DIODE RD5.6M-B2	
		<CAPACITOR>		D02	8-719-106-79	DIODE RD13M-B1	
C02	1-124-120-11	ELECT 220MF	20% 16V	D03	8-719-400-18	DIODE MA152WK	
C03	1-124-119-00	ELECT 330MF	20% 16V	D04	8-719-105-52	DIODE RD3.6M-B2	
C05	1-126-101-11	ELECT 100MF	20% 16V	D07	8-719-106-17	DIODE RD6.8M-B2	
C06	1-124-120-11	ELECT 220MF	20% 16V	D08	8-719-106-17	DIODE RD6.8M-B2	
C07	1-124-791-11	ELECT 1MF	20% 50V	D09	8-719-400-18	DIODE MA152WK	
C08	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	D10	8-719-400-18	DIODE MA152WK	
C09	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	D11	8-719-914-44	DIODE DAP202K	
C10	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	D12	8-719-914-44	DIODE DAP202K	
C11	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V			<IC>	
C12	1-163-127-00	CERAMIC CHIP 270PF	5% 50V	IC1	8-759-986-92	IC MAB-8461P-W177	
C13	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC2	8-759-972-96	IC SAA5231-V6	
C14	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	IC3	8-759-032-98	IC SDA5243	
C15	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	IC4	8-759-230-68	IC TMM2063P-70	
C16	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V			<COIL>	
C17	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	L01	1-408-411-00	INDUCTOR 15UH	
C18	1-163-099-00	CERAMIC CHIP 18PF	5% 50V	L04	1-408-407-00	INDUCTOR 6.8UH	
C19	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	L05	1-408-407-00	INDUCTOR 6.8UH	
C20	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	L06	1-408-407-00	INDUCTOR 6.8UH	
C21	1-163-833-00	CERAMIC CHIP 0.068MF	25V			<IC LINK>	
C24	1-126-101-11	ELECT 100MF	20% 16V	PS01	Δ 1-532-679-91	LINK, IC (ICP-N15) 0.6A	
C25	1-124-477-11	ELECT 47MF	20% 16V	PS02	Δ 1-532-727-91	LINK, IC 0.25A	
C27	1-163-129-00	CERAMIC CHIP 330PF	5% 50V			<TRANSISTOR>	
C28	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	Q3	8-729-900-53	TRANSISTOR DTC114EK	
C29	1-124-927-11	ELECT 4.7MF	20% 50V	Q01	8-729-107-26	TRANSISTOR 2SD1585-K	
C51	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q02	8-729-807-50	TRANSISTOR 2SD1623-R	
C52	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q04	8-729-271-22	TRANSISTOR 2SC2712-G	
C53	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q05	8-729-807-50	TRANSISTOR 2SD1623-R	
C54	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q06	8-729-271-22	TRANSISTOR 2SC2712-G	
C55	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q07	8-729-900-98	TRANSISTOR DTC143TK	
C56	1-163-038-00	CERAMIC CHIP 0.1MF	25V	Q09	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C57	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	Q10	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C58	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	Q11	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C59	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V			<RESISTOR>	
		<CONNECTOR>		JW1	1-216-295-00	METAL GLAZE 0 5% 1/1W	
CNV01	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JW2	1-216-295-00	METAL GLAZE 0 5% 1/1W	
CNV02	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JW3	1-216-295-00	METAL GLAZE 0 5% 1/1W	
CNV03	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		JW4	1-216-295-00	METAL GLAZE 0 5% 1/1W	
		<TRIMMER>		JW5	1-216-295-00	METAL GLAZE 0 5% 1/1W	
CT01	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)		JW6	1-216-295-00	METAL GLAZE 0 5% 1/1W	

6-2. PICTURE TUBE



The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-200-162-01	COVER, DOOR		64	Δ 1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
52	X-4200-027-1	CABINET ASSY (WITH BEZEL ASSY)	53-58	65	*A-1638-003-A	C BOARD, COMPLETE	
53	3-703-035-11	SHAFT, LID		66	*4-379-167-01	COVER (MAIN), CV	
54	4-386-710-01	CATCHER, PUSH		67	*4-379-160-01	COVER (REAR LID), CV	
55	4-200-159-01	DOOR		68	4-303-774-99	SPRING	
56	4-200-148-01	WINDOW, ORNAMENTAL		69	Δ 1-426-383-11	COIL, DEMAGNETIZATION	
57	4-200-150-01	BUTTON, POWER		70	*4-386-622-01	BAND, DGC	
58	4-329-112-21	SPRING		71	4-308-870-00	CLIP, LEAD WIRE	
59	Δ 8-738-753-05	PICTURE TUBE (A51JXH60X)		72	1-452-032-00	MAGNET, DISK; 10MM ϕ	
60	4-382-733-01	SCREW (S), PT		73	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
62	1-452-277-00	MAGNET, BMC		74	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
63	3-703-961-01	SPACER, DY		75	3-701-007-00	BAND, BINDING	

— 59 —

B

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C346	1-163-033-00	CERAMIC CHIP 0.022MF	50V	<IC>			
C347	1-124-791-11	ELECT 1MF	20% 50V	IC301	8-759-979-85	IC TDA4580-V4	
C348	1-124-791-11	ELECT 1MF	20% 50V	IC302	8-759-980-60	IC TDA8442N3	
C349	1-101-004-00	CERAMIC 0.01MF	50V	IC303	8-759-040-53	IC MC14053BCP	
C350	1-101-004-00	CERAMIC 0.01MF	50V	IC331	8-759-990-29	IC TDA4650	
C351	1-106-375-12	MYLAR 0.022MF	10% 250V	IC332	8-759-990-30	IC TDA4660	
C352	1-106-375-12	MYLAR 0.022MF	10% 250V	<COIL>			
C353	1-163-063-00	CERAMIC CHIP 0.022MF	10% 50V	L301	1-410-868-11	INDUCTOR 4.7UH	
C354	1-124-910-11	ELECT 47MF	20% 50V	L302	1-410-868-11	INDUCTOR 4.7UH	
C357	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	L303	1-408-408-00	INDUCTOR 8.2UH	
C358	1-124-917-11	ELECT 33MF	20% 50V	L331	1-404-554-11	COIL	
C359	1-163-103-00	CERAMIC CHIP 27PF	5% 50V	L336	1-404-554-11	COIL	
C360	1-101-004-00	CERAMIC 0.01MF	50V	L338	1-408-409-00	INDUCTOR 10UH	
C364	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	L1301	1-408-425-00	INDUCTOR 220UH	
C365	1-124-910-11	ELECT 47MF	20% 50V	L1302	1-408-419-00	INDUCTOR 68UH	
C366	1-126-103-11	ELECT 470MF	20% 16V	<TRANSISTOR>			
C367	1-101-004-00	CERAMIC 0.01MF	50V	Q301	8-729-271-22	TRANSISTOR 2SC2712-G	
C381	1-124-902-00	ELECT 0.47MF	20% 50V	Q303	8-729-271-22	TRANSISTOR 2SC2712-G	
C382	1-124-927-11	ELECT 4.7MF	20% 50V	Q305	8-729-901-00	TRANSISTOR DTC124EK	
C384	1-124-910-11	ELECT 47MF	20% 50V	Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C385	1-124-927-11	ELECT 4.7MF	20% 50V	Q311	8-729-271-22	TRANSISTOR 2SC2712-G	
C386	1-124-927-11	ELECT 4.7MF	20% 50V	Q312	8-729-271-22	TRANSISTOR 2SC2712-G	
C387	1-130-833-00	MYLAR 0.82MF	10% 63V	Q313	8-729-271-22	TRANSISTOR 2SC2712-G	
C388	1-106-220-00	MYLAR 0.1MF	10% 100V	Q316	8-729-271-22	TRANSISTOR 2SC2712-G	
C401	1-101-361-00	CERAMIC 150PF	5% 50V	Q330	8-729-216-22	TRANSISTOR 2SA1162-G	
C402	1-163-197-00	CERAMIC CHIP 470PF	5% 50V	Q331	8-729-901-00	TRANSISTOR DTC124EK	
C403	1-164-232-11	CERAMIC CHIP 0.01MF	50V	Q332	8-729-216-22	TRANSISTOR 2SA1162-G	
C1311	1-163-111-00	CERAMIC CHIP 56PF	5% 50V	Q333	8-729-216-22	TRANSISTOR 2SA1162-G	
C1312	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	Q334	8-729-271-22	TRANSISTOR 2SC2712-G	
C1313	1-102-953-00	CERAMIC 18PF	5% 50V	Q335	8-729-271-22	TRANSISTOR 2SC2712-G	
<TRIMMER>				Q336	8-729-900-36	TRANSISTOR DTC124ES	
CT331	1-141-418-11	CAP, ADJ		Q381	8-729-901-00	TRANSISTOR DTC124EK	
CT332	1-141-418-11	CAP, ADJ		Q382	8-729-271-22	TRANSISTOR 2SC2712-G	
<DIODE>				Q1301	8-729-900-36	TRANSISTOR DTC124ES	
D301	8-719-911-19	DIODE 1SS119		Q1306	8-729-271-22	TRANSISTOR 2SC2712-G	
D302	8-719-911-19	DIODE 1SS119		<RESISTOR>			
D303	8-719-911-19	DIODE 1SS119		JR384	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D304	8-719-911-19	DIODE 1SS119		JR390	1-216-295-00	METAL GLAZE 0 5% 1/10W	
D305	8-719-911-19	DIODE 1SS119		R301	1-249-409-11	CARBON 220 5% 1/4W	
D307	8-719-929-24	DIODE HZS11NB3		R302	1-249-409-11	CARBON 220 5% 1/4W	
D308	8-719-911-19	DIODE 1SS119		R303	1-249-409-11	CARBON 220 5% 1/4W	
D309	8-719-911-19	DIODE 1SS119		R304	1-249-409-11	CARBON 220 5% 1/4W	
D310	8-719-929-24	DIODE HZS11NB3		R305	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
D311	8-719-929-24	DIODE HZS11NB3		R307	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
D312	8-719-929-24	DIODE HZS11NB3		R308	1-216-184-00	METAL GLAZE 270 5% 1/8W	
D313	8-719-911-19	DIODE 1SS119		R309	1-216-025-00	METAL GLAZE 100 5% 1/10W	
D314	8-719-911-19	DIODE 1SS119		R310	1-216-025-00	METAL GLAZE 100 5% 1/10W	
D315	8-719-911-19	DIODE 1SS119		R311	1-216-025-00	METAL GLAZE 100 5% 1/10W	
D316	8-719-911-19	DIODE 1SS119		R312	1-249-409-11	CARBON 220 5% 1/4W	
D317	8-719-911-19	DIODE 1SS119		R313	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
D318	8-719-911-19	DIODE 1SS119		R314	1-216-182-00	METAL GLAZE 220 5% 1/8W	
D319	8-719-911-19	DIODE 1SS119		R315	1-216-027-00	METAL GLAZE 120 5% 1/10W	
D320	8-719-911-19	DIODE 1SS119		R316	1-216-027-00	METAL GLAZE 120 5% 1/10W	
D331	8-719-911-19	DIODE 1SS119		R317	1-216-027-00	METAL GLAZE 120 5% 1/10W	
D332	8-719-911-19	DIODE 1SS119		R318	1-249-429-11	CARBON 10K 5% 1/4W	
D333	8-719-911-19	DIODE 1SS119		<DELAY LINE>			
D350	8-719-928-94	DIODE HZS5.6NB3		DL332	1-236-062-11	MODULE, Y DELAY LINE	
<DELAY LINE>				DL401	1-415-613-11	DELAY LINE, Y	

B	F	A
---	---	---

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R319	1-249-409-11	CARBON	220 5% 1/4W	R398	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R320	1-216-198-00	METAL GLAZE	1K 5% 1/8W	R401	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R321	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R402	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R322	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R403	1-216-025-00	METAL GLAZE	100 5% 1/10W
R323	1-249-422-11	CARBON	2.7K 5% 1/4W	R404	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R324	1-249-429-11	CARBON	10K 5% 1/4W	R405	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R325	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R406	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R328	1-216-009-00	METAL GLAZE	22 5% 1/10W	R407	1-216-047-00	METAL GLAZE	820 5% 1/10W
R329	1-216-009-00	METAL GLAZE	22 5% 1/10W	R410	1-216-184-00	METAL GLAZE	270 5% 1/8W
R330	1-216-009-00	METAL GLAZE	22 5% 1/10W	R412	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R331	1-216-001-00	METAL GLAZE	10 5% 1/10W	R1301	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R332	1-216-184-00	METAL GLAZE	270 5% 1/8W	R1305	1-216-001-00	METAL GLAZE	10 5% 1/10W
R333	1-216-121-00	METAL GLAZE	1M 5% 1/10W	<VARIABLE RESISTOR>			
R334	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RV331	1-238-012-11	RES, ADJ, CARBON 1K	
R335	1-247-852-11	CARBON	7.5K 5% 1/4W	<CRYSTAL>			
R336	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	X331	1-567-307-11	OSCILLATOR, CRYSTAL	
R337	1-216-184-00	METAL GLAZE	270 5% 1/8W	X332	1-567-131-00	OSCILLATOR, CRYSTAL	
R338	1-216-001-00	METAL GLAZE	10 5% 1/10W	*****			
R339	1-216-033-00	METAL GLAZE	220 5% 1/10W	*1-633-408-11	F BOARD		
R340	1-216-121-00	METAL GLAZE	1M 5% 1/10W		*****		
R341	1-216-031-00	METAL GLAZE	180 5% 1/10W	*1-566-664-11	PIN, CONNECTOR 4P		
R342	1-216-041-00	METAL GLAZE	470 5% 1/10W	<FUSE>			
R344	1-216-089-00	METAL GLAZE	47K 5% 1/10W	F1601A	1-532-350-11	FUSE, TIME-LAG 4A/250V	
R346	1-216-202-00	METAL GLAZE	1.5K 5% 1/8W		1-533-230-11	HOLDER, FUSE; F1601	
R347	1-216-073-00	METAL GLAZE	10K 5% 1/10W	<SWITCH>			
R348	1-216-089-00	METAL GLAZE	47K 5% 1/10W	S1701A	1-571-433-11	SWITCH, PUSH (AC POWER)	
R349	1-216-045-00	METAL GLAZE	680 5% 1/10W	*****			
R350	1-216-045-00	METAL GLAZE	680 5% 1/10W	*A-1632-005-A	A BOARD, COMPLETE		
R351	1-216-033-00	METAL GLAZE	220 5% 1/10W		*****		
R354	1-216-033-00	METAL GLAZE	220 5% 1/10W	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)		
R355	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	*1-564-881-11	PLUG, CONNECTOR 4P		
R356	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	*1-564-886-11	PLUG, CONNECTOR 9P		
R358	1-216-033-00	METAL GLAZE	220 5% 1/10W	*1-565-393-11	CONNECTOR, BOARD TO BOARD		
R359	1-216-089-00	METAL GLAZE	47K 5% 1/10W	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P		
R360	1-216-089-00	METAL GLAZE	47K 5% 1/10W	<CAPACITOR>			
R361	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	C101	1-126-233-11	ELECT	22MF 20% 50V
R362	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C102	1-126-103-11	ELECT	470MF 20% 16V
R363	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	C104	1-124-910-11	ELECT	47MF 20% 50V
R364	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	C106	1-126-233-11	ELECT	22MF 20% 50V
R365	1-216-047-00	METAL GLAZE	820 5% 1/10W	C108	1-136-165-00	FILM	0.1MF 5% 50V
R366	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	C109	1-163-133-00	CERAMIC CHIP	470PF 5% 50V
R367	1-216-033-00	METAL GLAZE	220 5% 1/10W	C111	1-124-925-11	ELECT	2.2MF 20% 50V
R370	1-216-033-00	METAL GLAZE	220 5% 1/10W	C115	1-124-925-11	ELECT	2.2MF 20% 50V
R372	1-216-023-00	METAL GLAZE	82 5% 1/10W	C127	1-124-122-11	ELECT	100MF 20% 50V
R376	1-249-429-11	CARBON	10K 5% 1/4W	C128	1-124-910-11	ELECT	47MF 20% 50V
R377	1-216-043-00	METAL GLAZE	560 5% 1/10W	C129	1-124-910-11	ELECT	47MF 20% 50V
R378	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C138	1-136-165-00	FILM	0.1MF 5% 50V
R379	1-216-089-00	METAL GLAZE	47K 5% 1/10W	C171	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
R380	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	C172	1-163-005-11	CERAMIC CHIP	470PF 10% 50V
R381	1-216-093-00	METAL GLAZE	68K 5% 1/10W	C177	1-102-074-00	CERAMIC	0.001MF 10% 50V
R382	1-216-103-00	METAL GLAZE	180K 5% 1/10W	C181	1-101-004-00	CERAMIC	0.01MF 50V
R383	1-216-115-00	METAL GLAZE	560K 5% 1/10W				
R384	1-216-029-00	METAL GLAZE	150 5% 1/10W				
R385	1-216-085-00	METAL GLAZE	33K 5% 1/10W				
R387	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R388	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R389	1-216-101-00	METAL GLAZE	150K 5% 1/10W				
R390	1-216-033-00	METAL GLAZE	220 5% 1/10W				
R391	1-216-023-00	METAL GLAZE	82 5% 1/10W				
R392	1-216-019-00	METAL GLAZE	56 5% 1/10W				
R393	1-216-019-00	METAL GLAZE	56 5% 1/10W				
R394	1-216-019-00	METAL GLAZE	56 5% 1/10W				
R395	1-216-214-00	METAL GLAZE	4.7K 5% 1/8W				
R396	1-216-041-00	METAL GLAZE	470 5% 1/10W				

A

C

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<IC>				*A-1638-003-A C BOARD, COMPLETE *****			
IC103	8-759-979-62	IC PCF8574		*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		
<COIL>				*1-568-878-61	PIN, CONNECTOR 3P		
L100	1-410-116-11	INDUCTOR 0.56MMH		*1-568-881-51	PIN, CONNECTOR 6P		
L101	1-408-225-00	INDUCTOR 3.3UH		*4-379-160-01	COVER (REAR LID), CV		
L102	1-408-413-00	INDUCTOR 22UH		*4-379-167-01	COVER (MAIN), CV		
L107	1-408-397-00	INDUCTOR 1UH		<CONNECTOR>			
<TRANSISTOR>				C71	*1-506-371-00	PIN, CONNECTOR 2P	
Q113	8-729-271-22	TRANSISTOR 2SC2712-G		<CAPACITOR>			
Q114	8-729-271-22	TRANSISTOR 2SC2712-G		C703	1-102-980-00	CERAMIC 270PF 5% 50V	
Q115	8-729-271-22	TRANSISTOR 2SC2712-G		C704	1-102-116-00	CERAMIC 680PF 10% 50V	
Q116	8-729-271-22	TRANSISTOR 2SC2712-G		C705	1-102-976-00	CERAMIC 180PF 5% 50V	
Q125	8-729-900-89	TRANSISTOR DTC144ES		C706	1-102-116-00	CERAMIC 680PF 10% 50V	
Q126	8-729-901-06	TRANSISTOR DTA144EK		C707	1-162-116-00	CERAMIC 680PF 10% 2KV	
Q181	8-729-119-78	TRANSISTOR 2SC2785-HFE		C708	1-162-114-00	CERAMIC 0.0047MF 2KV	
<RESISTOR>				C709	1-102-116-00	CERAMIC 680PF 10% 50V	
R101	1-216-025-00	METAL GLAZE 100 5% 1/10W		C710	1-123-947-00	ELECT 10MF 20% 250V	
R105	1-216-079-00	METAL GLAZE 18K 5% 1/10W		C711	1-101-880-00	CERAMIC 47PF 5% 50V	
R107	1-216-081-00	METAL GLAZE 22K 5% 1/10W		C712	1-102-980-00	CERAMIC 270PF 5% 50V	
R108	1-216-079-00	METAL GLAZE 18K 5% 1/10W		C714	1-124-360-00	ELECT 1000MF 20% 16V	
R110	1-249-429-11	CARBON 10K 5% 1/4W		C716	1-162-622-11	CERAMIC 330PF 10% 400V	
R111	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W		C717	1-102-114-00	CERAMIC 470PF 10% 50V	
R116	1-216-023-00	METAL GLAZE 82 5% 1/10W		C718	1-102-114-00	CERAMIC 470PF 10% 50V	
R118	1-216-085-00	METAL GLAZE 33K 5% 1/10W		C719	1-102-114-00	CERAMIC 470PF 10% 50V	
R128	1-216-027-00	METAL GLAZE 120 5% 1/10W		<DIODE>			
R129	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		D701	8-719-929-16	DIODE HZS9.1NB3	
R130	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W		D702	8-719-911-19	DIODE 1SS119	
R157	1-216-049-00	METAL GLAZE 1K 5% 1/10W		D703	8-719-911-19	DIODE 1SS119	
R158	1-249-409-11	CARBON 220 5% 1/4W		D704	8-719-911-19	DIODE 1SS119	
R159	1-249-409-11	CARBON 220 5% 1/4W		D705	8-719-911-19	DIODE 1SS119	
R161	1-216-089-00	METAL GLAZE 47K 5% 1/10W		D706	8-719-911-19	DIODE 1SS119	
R162	1-216-095-00	METAL GLAZE 82K 5% 1/10W		D707	8-719-911-19	DIODE 1SS119	
R163	1-216-095-00	METAL GLAZE 82K 5% 1/10W		D708	8-719-911-19	DIODE 1SS119	
R164	1-216-075-00	METAL GLAZE 12K 5% 1/10W		D709	8-719-911-19	DIODE 1SS119	
R165	1-216-075-00	METAL GLAZE 12K 5% 1/10W		D710	8-719-911-19	DIODE 1SS119	
R167	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W		D711	8-719-300-33	DIODE RU-3AM	
R168	1-216-089-00	METAL GLAZE 47K 5% 1/10W		D713	8-719-911-19	DIODE 1SS119	
R169	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W		<JACK>			
R181	1-216-049-00	METAL GLAZE 1K 5% 1/10W		J701	1-526-990-11	SOCKET, PICTURE TUBE	
R182	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W		<COIL>			
R193	1-216-073-00	METAL GLAZE 10K 5% 1/10W		L704	1-410-878-21	INDUCTOR 33UH	
R194	1-216-017-00	METAL GLAZE 47 5% 1/10W		<TRANSISTOR>			
R195	1-216-017-00	METAL GLAZE 47 5% 1/10W		Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R196	1-216-113-00	METAL GLAZE 470K 5% 1/10W		Q703	8-729-906-70	TRANSISTOR BF871	
<TUNER>				Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
TU101A	1-465-301-11	TUNER, ET (UV-816(PLL))		Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
<IF BLOCK>				Q706	8-729-906-70	TRANSISTOR BF871	
VIF101	1-466-154-21	IF BLOCK (IFG-389S)		Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
*****				Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
				Q709	8-729-906-70	TRANSISTOR BF871	
				Q710	8-729-200-17	TRANSISTOR 2SA1091-0	

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

C D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<RESISTOR>				<CAPACITOR>			
R704	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C002	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R705	1-202-824-00	SOLID	3.3K 10% 1/2W	C003	1-123-875-11	ELECT 10MF	20% 50V
R706	1-249-409-11	CARBON	220 5% 1/4W	C004	1-124-120-11	ELECT 220MF	20% 16V
R707	1-247-822-11	CARBON	430 5% 1/4W	C005	1-124-791-11	ELECT 1MF	20% 50V
R708	1-249-401-11	CARBON	47 5% 1/4W	C006	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R709	1-202-844-00	SOLID	330K 10% 1/2W	C007	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R710	1-215-469-00	METAL	100K 1% 1/6W	C008	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R711	1-249-426-11	CARBON	5.6K 5% 1/4W	C009	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R712	1-249-417-11	CARBON	1K 5% 1/4W	C010	1-124-120-11	ELECT 220MF	20% 16V
R713	1-215-474-00	METAL	160K 1% 1/6W	C011	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R714	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C012	1-123-875-11	ELECT 10MF	20% 50V
R715	1-202-824-00	SOLID	3.3K 10% 1/2W	C013	1-106-220-00	MYLAR 0.1MF	10% 100V
R716	1-249-409-11	CARBON	220 5% 1/4W	C014	1-106-220-00	MYLAR 0.1MF	10% 100V
R717	1-249-415-11	CARBON	680 5% 1/4W	C015	1-124-902-00	ELECT 0.47MF	20% 50V
R718	1-202-814-11	SOLID	33K 10% 1/2W	C016	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
R719	1-249-401-11	CARBON	47 5% 1/4W	C017	1-106-220-00	MYLAR 0.1MF	10% 100V
R720	1-249-423-11	CARBON	3.3K 5% 1/4W	C018	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
R721	1-202-842-11	SOLID	220K 10% 1/2W	C019	1-106-383-00	MYLAR 0.047MF	10% 100V
R722	1-202-848-00	SOLID	680K 10% 1/2W	C020	1-124-917-11	ELECT 33MF	20% 50V
R723	1-249-417-11	CARBON	1K 5% 1/4W	C021	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R724	1-202-846-00	SOLID	470K 10% 1/2W	C022	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R725	1-202-838-00	SOLID	100K 10% 1/2W	C023	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R726	1-202-824-00	SOLID	3.3K 10% 1/2W	C024	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R727	1-249-409-11	CARBON	220 5% 1/4W	C025	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R728	1-216-347-11	METAL OXIDE	0.68 5% 1W F	C027	1-124-910-11	ELECT 47MF	20% 50V
R729	1-249-416-11	CARBON	820 5% 1/4W	C029	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R730	1-249-401-11	CARBON	47 5% 1/4W	C030	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R731	1-249-423-11	CARBON	3.3K 5% 1/4W	C031	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R732	1-249-415-11	CARBON	680 5% 1/4W	C032	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R733	1-249-415-11	CARBON	680 5% 1/4W	C251	1-124-791-11	ELECT 1MF	20% 50V
R734	1-249-405-11	CARBON	100 5% 1/4W	C252	1-126-233-11	ELECT 22MF	20% 50V
R735	1-215-493-00	METAL	1M 1% 1/6W	C253	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R736	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C254	1-106-220-00	MYLAR 0.1MF	10% 100V
R737	1-215-483-00	METAL	390K 1% 1/6W	C255	1-124-636-00	ELECT 3300MF	20% 25V
R739	1-249-417-11	CARBON	1K 5% 1/4W	C261	1-124-791-11	ELECT 1MF	20% 50V
<VARIABLE RESISTOR>				C262	1-126-233-11	ELECT 22MF	20% 50V
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M		C263	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M		C264	1-106-220-00	MYLAR 0.1MF	10% 100V
RV703	1-237-749-11	RES, ADJ, CARBON 2200		C265	1-124-564-11	ELECT 4700MF	20% 25V
RV704	1-237-749-11	RES, ADJ, CARBON 2200		C501	1-124-927-11	ELECT 4.7MF	20% 50V
*****				C502	1-124-927-11	ELECT 4.7MF	20% 50V
*A-1642-010-A	D BOARD, COMPLETE			C503	1-106-371-00	MYLAR 0.015MF	10% 400V
*****				C504	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			C505	1-108-794-11	MYLAR 0.0015MF	5% 50V
*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			C506	1-106-375-12	MYLAR 0.022MF	10% 250V
*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			C507	1-130-783-00	MYLAR 0.33MF	10% 100V
*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR			C508	1-106-375-12	MYLAR 0.022MF	10% 250V
*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)			C509	1-106-220-00	MYLAR 0.1MF	10% 100V
*1-568-106-11	PIN, CONNECTOR 4P			C510	1-161-959-00	CERAMIC 22PF	10% 500V
*1-568-536-11	PLUG (MINIATURE DY) 6P			C511	1-108-620-11	MYLAR 0.0033MF	10% 100V
*1-568-878-51	PIN, CONNECTOR 3P			C512	1-106-220-00	MYLAR 0.1MF	10% 100V
*1-568-881-51	PIN, CONNECTOR 6P			C513	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
*1-568-882-51	PIN, CONNECTOR 7P			C514	1-106-228-00	MYLAR 0.22MF	10% 100V
4-200-001-01	HOLDER, IC			C515	1-124-791-11	ELECT 1MF	20% 50V
*4-341-751-01	EYELET			C516	1-108-614-11	MYLAR 0.001MF	10% 100V
*4-341-752-01	EYELET			C517	1-124-252-00	ELECT 0.33MF	20% 50V
*4-368-683-01	SPRING			C518	1-124-902-00	ELECT 0.47MF	20% 50V
				C519	1-136-173-00	FILM 0.47MF	5% 50V

D

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C520	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C822	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C521	1-106-220-00	MYLAR 0.1MF	10% 100V	C823	1-106-359-00	MYLAR 0.0047MF	10% 400V
C522	1-124-122-11	ELECT 100MF	20% 50V	C824	1-102-212-00	CERAMIC 820PF	10% 500V
C523	1-108-614-11	MYLAR 0.001MF	10% 100V	C825	1-106-375-12	MYLAR 0.022MF	10% 250V
C524	1-108-798-11	MYLAR 0.0033MF	5% 50V	C1601 Δ	1-136-518-11	FILM 0.33MF	20% 300V
C525	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1602 Δ	1-136-519-11	FILM 0.47MF	20% 300V
C526	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C1603 Δ	1-164-322-51	CERAMIC 0.0047MF	20% 400V
C527	1-106-220-00	MYLAR 0.1MF	10% 100V	C1604 Δ	1-164-322-51	CERAMIC 0.0047MF	20% 400V
C531	1-124-190-00	ELECT 680MF	10% 25V	C1605 Δ	1-164-322-51	CERAMIC 0.0047MF	20% 400V
C532	1-124-514-11	ELECT 100MF	20% 50V	C1606 Δ	1-164-322-51	CERAMIC 0.0047MF	20% 400V
C533	1-106-216-00	MYLAR 0.068MF	10% 100V	C1607 Δ	1-161-964-61	CERAMIC 0.0047MF	250V
C534	1-124-120-11	ELECT 220MF	20% 16V	<FILTER>			
C536	1-131-363-00	TANTALUM 4.7MF	10% 16V	CF001	1-577-364-11	VIBRATOR, CERAMIC	
C537	1-124-791-11	ELECT 1MF	20% 50V	CF501	1-567-888-11	OSCILLATOR, CERAMIC	
C538	1-108-614-11	MYLAR 0.001MF	10% 100V	<DIODE>			
C539	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D001	8-719-911-19	DIODE 1SS119	
C540	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D002	8-719-929-03	DIODE HZS6.8NB3	
C592	1-124-122-11	ELECT 100MF	20% 50V	D003	8-719-911-19	DIODE 1SS119	
C593	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D004	8-719-911-19	DIODE 1SS119	
C601 Δ	1-161-964-61	CERAMIC 0.0047MF	250V	D005	8-719-109-89	DIODE RD5.6ES-B2	
C602 Δ	1-161-964-61	CERAMIC 0.0047MF	250V	D006	8-719-929-71	DIODE HZS33NB1	
C603	1-162-599-12	CERAMIC 0.0047MF	250V	D007	8-719-911-19	DIODE 1SS119	
C604 Δ	1-125-318-11	ELECT (BLOCK) 220MF	20% 400V	D009	8-719-109-89	DIODE RD5.6ES-B2	
C605	1-124-510-11	ELECT 220MF	20% 35V	D010	8-719-120-78	DIODE RD6.2ES-L3	
C606	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	D011	8-719-120-78	DIODE RD6.2ES-L3	
C607	1-130-834-00	MYLAR 1MF	10% 63V	D271	8-719-110-36	DIODE RD13ES-B2	
C608	1-124-927-11	ELECT 4.7MF	20% 50V	D272	8-719-911-19	DIODE 1SS119	
C611	1-124-910-11	ELECT 47MF	20% 50V	D501	8-719-911-19	DIODE 1SS119	
C612	1-108-614-11	MYLAR 0.001MF	10% 100V	D504	8-719-911-55	DIODE U05G	
C613	1-136-539-11	FILM 0.0022MF	3% 2KV	D506	8-719-800-76	DIODE 1SS226	
C614	1-102-030-00	CERAMIC 330PF	10% 500V	D508	8-719-911-19	DIODE 1SS119	
C615	1-124-557-11	ELECT 1000MF	20% 25V	D511	8-719-911-55	DIODE U05G	
C616	1-102-030-00	CERAMIC 330PF	10% 500V	D512	8-719-911-55	DIODE U05G	
C617	1-124-122-11	ELECT 100MF	20% 50V	D513	8-719-928-85	DIODE HZS4.7NB2	
C618	1-162-115-00	CERAMIC 330PF	10% 2KV	D601 Δ	8-719-946-90	DIODE KBU4JL-6088	
C619	1-124-556-11	ELECT 2200MF	20% 16V	D602	8-719-300-33	DIODE RU-3AM	
C620	1-136-173-00	FILM 0.47MF	5% 50V	D603	8-719-911-55	DIODE U05G	
C621	1-124-347-00	ELECT 100MF	20% 160V	D604	8-719-911-55	DIODE U05G	
C622	1-124-556-11	ELECT 2200MF	20% 16V	D605	8-719-911-55	DIODE U05G	
C623	1-124-910-11	ELECT 47MF	20% 50V	D606	8-719-300-33	DIODE RU-3AM	
C624	1-124-122-11	ELECT 100MF	20% 50V	D607	8-719-300-33	DIODE RU-3AM	
C625	1-124-360-00	ELECT 1000MF	20% 16V	D608	8-719-300-33	DIODE RU-3AM	
C626	1-123-875-11	ELECT 10MF	20% 50V	D609	8-719-929-71	DIODE HZS33NB1	
C627	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D610	8-719-300-59	DIODE CTU-12S	
C631	1-124-927-11	ELECT 4.7MF	20% 50V	D611	8-719-900-26	DIODE ERD29-08J	
C632	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D612	8-719-300-59	DIODE CTU-12S	
C633	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D613	8-719-979-85	DIODE EGP20G	
C801	1-126-105-11	ELECT 1000MF	20% 35V	D614	8-719-979-85	DIODE EGP20G	
C802	1-102-030-00	CERAMIC 330PF	10% 500V	D616	8-719-120-78	DIODE RD6.2ES-L3	
C804	1-123-948-00	ELECT 22MF	20% 250V	D617	8-719-911-19	DIODE 1SS119	
C805	1-162-114-00	CERAMIC 0.0047MF	2KV	D618	8-719-109-89	DIODE RD5.6ES-B2	
C806	1-106-220-00	MYLAR 0.1MF	10% 100V	D619	8-719-929-71	DIODE HZS33NB1	
C807	1-106-395-00	MYLAR 0.15MF	10% 200V	D620	8-719-800-76	DIODE 1SS226	
C810	1-123-024-21	ELECT 33MF	160V	D621	8-719-929-71	DIODE HZS33NB1	
C811	1-136-111-00	FILM 1MF	5% 200V	D622	8-719-911-19	DIODE 1SS119	
C812	1-124-634-11	ELECT 1MF	20% 250V	D623	8-719-911-19	DIODE 1SS119	
C813	1-102-212-00	CERAMIC 820PF	10% 500V	D624	8-719-911-19	DIODE 1SS119	
C814 Δ	1-161-731-11	CERAMIC 0.001MF	10% 2KV	D630	8-719-110-39	DIODE RD15ES-B1	
C815	1-136-111-00	FILM 1MF	5% 200V	D801	8-719-300-33	DIODE RU-3AM	
C817	1-136-549-11	FILM 0.0106MF	3% 1.4KV	D802	8-719-300-33	DIODE RU-3AM	
C818	1-136-759-11	FILM 0.039MF	10% 630V				
C819 Δ	1-161-731-11	CERAMIC 0.001MF	10% 2KV				
C820	1-106-218-00	MYLAR 0.0082MF	10% 400V				
C821 Δ	1-162-116-51	CERAMIC 680PF	10% 2KV				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

KV-X2131D
RM-689

D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D803	8-719-300-65	DIODE ES1F		Q006	8-729-901-01	TRANSISTOR DTC144EK	
D804	8-719-911-55	DIODE U05G		Q007	8-729-271-22	TRANSISTOR 2SC2712-G	
D805	8-719-911-55	DIODE U05G		Q008	8-729-271-22	TRANSISTOR 2SC2712-G	
D806	8-719-945-80	DIODE ERC06-15S		Q009	8-729-271-22	TRANSISTOR 2SC2712-G	
D808	8-719-928-08	DIODE ERD28-08S		Q251	8-729-271-22	TRANSISTOR 2SC2712-G	
<IC>				Q261	8-729-271-22	TRANSISTOR 2SC2712-G	
IC001	8-759-501-66	IC SDA2083-B012		Q271	8-729-271-22	TRANSISTOR 2SC2712-G	
IC002	8-752-332-82	IC CXD1050A-09P		Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
IC003	8-759-945-58	IC RC4558P		Q505	8-729-140-96	TRANSISTOR 2SD774-34	
IC005	8-759-748-56	IC SDA2546		Q506	8-729-140-97	TRANSISTOR 2SB734-34	
IC251	8-759-988-94	IC TDA2050		Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
IC261	4-201-023-01	SPACER, INSULATING; IC251		Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
	4-812-134-00	RIVET NYLON, 3.5; IC251		Q601	8-729-111-67	TRANSISTOR 2SB1094-L	
	8-759-988-94	IC TDA2050		Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
	4-201-023-01	SPACER, INSULATING; IC261		Q603	8-729-111-67	TRANSISTOR 2SB1094-L	
IC501	4-812-134-00	RIVET NYLON, 3.5; IC261		Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
	8-759-970-73	IC TEA2028B		Q605	8-729-271-22	TRANSISTOR 2SC2712-G	
	8-759-944-57	IC TDA8170		Q606	8-729-271-22	TRANSISTOR 2SC2712-G	
	8-759-988-95	IC TEA2260		Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
IC601	8-759-988-95	IC TEA2260		Q608	8-729-271-22	TRANSISTOR 2SC2712-G	
IC604	8-759-144-84	IC UPC24M05HF		Q609	8-729-320-62	TRANSISTOR 2SD789-34	
IC608	8-759-037-26	IC TYA7812CT		Q801	8-729-271-22	TRANSISTOR 2SC2712-G	
<COIL>				Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
L001	1-408-414-00	INDUCTOR 27UH		Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	
L501	1-408-225-00	INDUCTOR 3.3UH		<RESISTOR>			
L601	*1-420-872-00	COIL, AIR CORE		R001	1-216-041-00	METAL GLAZE 470 5%	1/10W
L602	1-410-396-41	FERRITE BEAD INDUCTOR		R002	1-216-041-00	METAL GLAZE 470 5%	1/10W
L603	1-410-396-41	FERRITE BEAD INDUCTOR		R003	1-249-417-11	CARBON 1K 5%	1/4W
L604	1-410-671-31	INDUCTOR 47UH		R004	1-216-049-00	METAL GLAZE 1K 5%	1/10W
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)		R005	1-249-417-11	CARBON 1K 5%	1/4W
L606	1-421-013-00	COIL (HORIZONTAL CHOKE) 25UH		R006	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L607	1-410-671-31	INDUCTOR 47UH		R007	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
L803	1-459-104-00	COIL, DUST CORE		R008	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L804	1-408-239-00	INDUCTOR 4.7MMH		R009	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L805	Δ 1-459-652-12	HLC		R010	1-216-041-00	METAL GLAZE 470 5%	1/10W
L806	1-459-115-00	COIL, DCC-H		R011	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
L809	*1-420-872-00	COIL, AIR CORE		R013	1-216-073-00	METAL GLAZE 10K 5%	1/10W
L810	Δ 1-459-390-11	COIL (WITH CORE)		R014	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
<TRANSFORMER>				R015	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
LF1601	Δ 1-421-866-12	LFT		R016	1-216-085-00	METAL GLAZE 33K 5%	1/10W
LF1602	Δ 1-421-776-11	LFT		R017	1-216-748-11	METAL GLAZE 39K 5%	1/10W
LF1603	Δ 1-421-592-21	TRANSFORMER, FERRITE		R018	1-216-095-00	METAL GLAZE 82K 5%	1/10W
T601	Δ 1-450-038-11	S.R.T		R019	1-216-049-00	METAL GLAZE 1K 5%	1/10W
T602	Δ 1-424-277-11	TRANSFORMER, TRIGGER PULSE		R020	1-216-049-00	METAL GLAZE 1K 5%	1/10W
T801	Δ 1-437-090-21	HDT		R021	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
T802	Δ 1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)		R022	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
<IC LINK>				R023	1-216-035-00	METAL GLAZE 270 5%	1/10W
PS601	Δ 1-532-984-91	LINK, IC (ICP-N50) 2A		R024	1-216-049-00	METAL GLAZE 1K 5%	1/10W
PS602	Δ 1-532-984-91	LINK, IC (ICP-N50) 2A		R025	1-216-025-00	METAL GLAZE 100 5%	1/10W
PS603	Δ 1-532-679-91	LINK, IC (ICP-N15) 0.6A		R026	1-249-417-11	CARBON 1K 5%	1/4W
<TRANSISTOR>				R027	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q001	8-729-901-01	TRANSISTOR DTC144EK		R028	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q002	8-729-901-06	TRANSISTOR DTA144EK		R029	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q003	8-729-216-22	TRANSISTOR 2SA1162-G		R030	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q004	8-729-216-22	TRANSISTOR 2SA1162-G		R031	1-216-081-00	METAL GLAZE 22K 5%	1/10W
Q005	8-729-901-01	TRANSISTOR DTC144EK		R032	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R033	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R034	1-216-077-00	METAL GLAZE 15K 5%	1/10W
				R035	1-216-081-00	METAL GLAZE 22K 5%	1/10W
				R036	1-216-079-00	METAL GLAZE 18K 5%	1/10W
				R037	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R038	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W

D

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R039	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R503	1-216-035-00	METAL GLAZE	270 5% 1/10W
R040	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R504	1-249-420-11	CARBON	1.8K 5% 1/4W
R041	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R042	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R506	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R043	1-216-041-00	METAL GLAZE	470 5% 1/10W	R509	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R044	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R045	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R514	1-216-033-00	METAL GLAZE	220 5% 1/10W
R046	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R515	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R047	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R048	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R049	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R519	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R050	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R520	1-216-037-00	METAL GLAZE	330 5% 1/10W
R051	1-216-041-00	METAL GLAZE	470 5% 1/10W	R521	1-216-025-00	METAL GLAZE	100 5% 1/10W
R052	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R522	1-249-441-11	CARBON	100K 5% 1/4W
R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R054	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R524	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R055	1-216-037-00	METAL GLAZE	330 5% 1/10W	R525	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R056	1-216-025-00	METAL GLAZE	100 5% 1/10W	R526	1-249-409-11	CARBON	220 5% 1/4W F
R057	1-216-033-00	METAL GLAZE	220 5% 1/10W	R527	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R058	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R528	1-216-031-00	METAL GLAZE	180 5% 1/10W
R059	1-249-417-11	CARBON	1K 5% 1/4W	R529	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R060	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R530	1-249-448-11	CARBON	1.2 5% 1/4W F
R061	1-249-417-11	CARBON	1K 5% 1/4W	R533	1-216-031-00	METAL GLAZE	180 5% 1/10W
R062	1-249-417-11	CARBON	1K 5% 1/4W	R534	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R063	1-249-429-11	CARBON	10K 5% 1/4W	R535	1-249-753-15	CARBON	4.7M 5% 1/4W
R064	1-249-417-11	CARBON	1K 5% 1/4W	R536	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R065	1-249-429-11	CARBON	10K 5% 1/4W	R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R066	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R538	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R067	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R539	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R068	1-249-417-11	CARBON	1K 5% 1/4W	R540	1-216-013-00	METAL GLAZE	33 5% 1/10W
R069	1-249-417-11	CARBON	1K 5% 1/4W	R541	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R070	1-249-417-11	CARBON	1K 5% 1/4W	R542	1-216-308-00	METAL GLAZE	4.7 5% 1/10W
R071	1-249-417-11	CARBON	1K 5% 1/4W	R543	1-249-451-11	CARBON	2.2 5% 1/4W
R072	1-249-417-11	CARBON	1K 5% 1/4W	R544	1-247-745-11	CARBON	330 5% 1/2W
R073	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R545	1-216-748-11	METAL GLAZE	39K 5% 1/10W
R074	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R546	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R075	1-216-033-00	METAL GLAZE	220 5% 1/10W	R547	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R076	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R548	1-216-350-11	METAL OXIDE	1.2 5% 1W
R077	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R549	1-215-890-11	METAL OXIDE	470 5% 2W F
R078	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R550	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R251	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R551	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R252	1-216-039-00	METAL GLAZE	390 5% 1/10W	R552	1-216-433-00	METAL OXIDE	1.2K 5% 1W
R253	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R553	1-216-869-11	METAL OXIDE	1K 5% 1W
R254	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R554	1-216-037-00	METAL GLAZE	330 5% 1/10W
R255	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R555	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R256	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R556	1-216-025-00	METAL GLAZE	100 5% 1/10W
R257	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R258	1-215-869-11	METAL OXIDE	1K 5% 1W F	R558	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R259	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R559	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R261	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R560	1-216-037-00	METAL GLAZE	330 5% 1/10W
R262	1-216-039-00	METAL GLAZE	390 5% 1/10W	R591	1-216-047-00	METAL GLAZE	820 5% 1/10W
R263	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R592	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R264	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R593	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R265	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R594	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R266	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R597	1-216-041-00	METAL GLAZE	470 5% 1/10W
R267	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R598	1-215-900-11	METAL OXIDE	22K 5% 2W F
R268	1-215-869-11	METAL OXIDE	1K 5% 1W F	R601	1-216-353-00	METAL OXIDE	2.2 5% 1W F
R269	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R603	1-215-906-11	METAL OXIDE	15 5% 3W F
R271	1-216-045-00	METAL GLAZE	680 5% 1/10W	R604	1-216-025-00	METAL GLAZE	100 5% 1/10W
R272	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R605	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R273	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R606	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
R500	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R607	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R501	1-216-041-00	METAL GLAZE	470 5% 1/10W	R608 Δ	1-216-488-51	METAL OXIDE	18K 5% 3W F
R502	1-216-033-00	METAL GLAZE	220 5% 1/10W				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

D	H1	H2	J1
---	----	----	----

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R609	1-216-007-00	METAL GLAZE	18 5% 1/10W	<THERMISTOR>			
R610	1-244-941-00	CARBON	680K 5% 1/2W	THP601A 1-808-059-31 THERMISTOR, POSITIVE			
R611	1-216-015-00	METAL GLAZE	39 5% 1/10W	*****			
R612	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*1-633-409-11 H1 BOARD			
R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W	*****			
R614	1-205-758-11	WIREWOUND	100 10% 10W F	1-562-837-11 JACK			
R616	1-216-099-00	METAL GLAZE	120K 5% 1/10W	*1-564-512-11 PLUG, CONNECTOR 9P			
R617	1-216-037-00	METAL GLAZE	330 5% 1/10W	*1-568-879-51 PIN, CONNECTOR 4P			
R618	1-216-431-11	METAL OXIDE	560 5% 1W F	*1-568-879-61 PIN, CONNECTOR 4P			
R619	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*1-568-881-71 PIN, CONNECTOR 6P			
R620	1-216-081-00	METAL GLAZE	22K 5% 1/10W	1-569-473-11 JACK BLOCK, PIN 3P			
R621	1-216-077-00	METAL GLAZE	15K 5% 1/10W	<RESISTOR>			
R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1651	1-249-413-11	CARBON	470 5% 1/4W
R623	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1652	1-249-413-11	CARBON	470 5% 1/4W
R624	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	<SWITCH>			
R625	1-215-865-11	METAL OXIDE	220 5% 1W F	S1651	1-571-532-21	SWITCH, TACTIL	
R626	1-216-037-00	METAL GLAZE	330 5% 1/10W	S1652	1-571-532-21	SWITCH, TACTIL	
R628	1-216-001-00	METAL GLAZE	10 5% 1/10W	S1653	1-571-532-21	SWITCH, TACTIL	
R629	1-216-037-00	METAL GLAZE	330 5% 1/10W	*****			
R633	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*1-633-410-11 H2 BOARD			
R634	1-216-430-11	METAL OXIDE	390 5% 1W F	*****			
R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*1-568-882-51 PIN, CONNECTOR 7P			
R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*4-374-987-01 GUIDE, LIGHT			
R643	1-217-190-21	WIREWOUND	0.15 5% 2W F	*4-381-686-01 BRACKET (B), LIGHT GUIDE			
R651	1-216-025-00	METAL GLAZE	100 5% 1/10W	<DIODE>			
R653	1-205-758-11	WIREWOUND	100 10% 10W F	D1651	8-719-948-31	DIODE LD-201VR	
R802	1-249-443-11	CARBON	0.47 5% 1/4W F	*4-387-825-02 HOLDER, LED; D1651			
R805	1-249-448-11	CARBON	1.2 5% 1/4W F	D1652	8-719-948-31	DIODE LD-201VR	
R806	1-216-093-00	METAL GLAZE	68K 5% 1/10W	*4-387-825-02 HOLDER, LED; D1652			
R807	1-215-869-11	METAL OXIDE	1K 5% 1W F	D1654	8-719-948-31	DIODE LD-201VR	
R809	1-202-821-11	SOLID	1.8K 10% 1/2W	*4-387-825-02 HOLDER, LED; D1654			
R810	1-202-818-00	SOLID	1K 10% 1/2W	<IC>			
R811	1-215-863-11	METAL OXIDE	100 5% 1W	IC1651	8-741-138-70	IC BX-1387	
R812	1-247-285-00	CARBON	75K 5% 1/2W	<RESISTOR>			
R815	1-215-884-11	METAL OXIDE	47 5% 2W F	R1662	1-249-413-11	CARBON	470 5% 1/4W
R816	1-215-868-00	METAL OXIDE	680 5% 1W F	*****			
R817	1-216-049-00	METAL GLAZE	1K 5% 1/10W	*A-1651-014-A J1 BOARD, COMPLETE			
R820	1-249-403-11	CARBON	68 5% 1/4W	*****			
R821	1-247-725-11	CARBON	10K 5% 1/4W F	1-561-534-41 SOCKET 21P			
R822	1-217-778-61	FUSIBLE	1K 5% 1W F	*1-564-518-11 PLUG, CONNECTOR 3P			
R825	1-216-349-00	METAL OXIDE	1 5% 1W F	*1-564-524-11 PLUG, CONNECTOR 9P			
R826	1-216-097-00	METAL GLAZE	100K 5% 1/10W	*1-564-527-11 PLUG, CONNECTOR 12P			
R827	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*1-566-641-11 CONNECTOR, HINGE (TAB) 18P			
R828	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	<SPARK GAP>			
R829	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	SG801	1-519-422-11	GAP, SPARK	
R831	1-249-451-11	CARBON	2.2 5% 1/4W	<VARIABLE RESISTOR>			
R1601A	1-246-513-75	CARBON	47K 5% 1/4W	RV501	1-238-013-11	RES, ADJ, CARBON 2.2K	
R1602A	1-244-945-91	CARBON	1M 5% 1/2W	RV502	1-238-016-11	RES, ADJ, CARBON 10K	
R1603A	1-217-328-11	WIREWOUND	2.7 10% 7W F	RV601	1-238-011-11	RES, ADJ, CARBON 470	
R1604A	1-246-513-75	CARBON	47K 5% 1/4W	<SPARK GAP>			
R1605A	1-218-265-91	METAL GLAZE	8.2M 5% 1W	*****			
R5501	1-216-073-00	METAL GLAZE	10K 5% 1/10W	*A-1651-014-A J1 BOARD, COMPLETE			
R5503	1-216-308-00	METAL GLAZE	4.7 5% 1/10W	*****			
R5504	1-216-121-00	METAL GLAZE	1M 5% 1/10W	1-561-534-41 SOCKET 21P			
R5505	1-216-001-00	METAL GLAZE	10 5% 1/10W	*1-564-518-11 PLUG, CONNECTOR 3P			
<VARIABLE RESISTOR>				*1-564-524-11 PLUG, CONNECTOR 9P			
RV501	1-238-013-11	RES, ADJ, CARBON 2.2K		*1-564-527-11 PLUG, CONNECTOR 12P			
RV502	1-238-016-11	RES, ADJ, CARBON 10K		*1-566-641-11 CONNECTOR, HINGE (TAB) 18P			
RV601	1-238-011-11	RES, ADJ, CARBON 470		<SPARK GAP>			
<SPARK GAP>				SG801	1-519-422-11	GAP, SPARK	

J1

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<CAPACITOR>							
C203	1-124-925-11	ELECT	2.2MF	C1436	1-163-009-11	CERAMIC CHIP	0.001MF
C205	1-124-927-11	ELECT	4.7MF	C1437	1-163-009-11	CERAMIC CHIP	0.001MF
C206	1-124-925-11	ELECT	2.2MF				
C207	1-124-927-11	ELECT	4.7MF	C1438	1-106-367-00	MYLAR	0.01MF
C213	1-126-233-11	ELECT	22MF	C1439	1-106-367-00	MYLAR	0.01MF
C214	1-106-363-00	MYLAR	0.0068MF	C1440	1-123-875-11	ELECT	10MF
C217	1-106-363-00	MYLAR	0.0068MF	C1441	1-123-875-11	ELECT	10MF
C218	1-106-375-12	MYLAR	0.022MF	C1442	1-106-220-00	MYLAR	0.1MF
C219	1-106-375-12	MYLAR	0.022MF				
C220	1-108-620-11	MYLAR	0.0033MF	C1443	1-106-220-00	MYLAR	0.1MF
C221	1-108-620-11	MYLAR	0.0033MF	C1444	1-124-910-11	ELECT	47MF
C222	1-106-385-00	MYLAR	0.056MF	C1445	1-102-824-00	CERAMIC	470PF
C223	1-106-385-00	MYLAR	0.056MF	C1446	1-102-824-00	CERAMIC	470PF
C224	1-106-367-00	MYLAR	0.01MF	C1501	1-124-927-11	ELECT	4.7MF
C225	1-136-173-00	FILM	0.47MF				
C226	1-136-173-00	FILM	0.47MF	C1502	1-124-791-11	ELECT	1MF
C227	1-106-375-12	MYLAR	0.022MF	C1503	1-108-614-11	MYLAR	0.001MF
C228	1-106-379-12	MYLAR	0.033MF	C1504	1-124-910-11	ELECT	47MF
C229	1-106-371-00	MYLAR	0.015MF	C1505	1-106-383-00	MYLAR	0.047MF
C230	1-106-371-00	MYLAR	0.015MF	C1507	1-108-620-11	MYLAR	0.0033MF
C231	1-124-902-00	ELECT	0.47MF				
C232	1-123-875-11	ELECT	10MF	C1508	1-124-791-11	ELECT	1MF
C233	1-163-005-11	CERAMIC CHIP	470PF	C1509	1-124-791-11	ELECT	1MF
C234	1-163-005-11	CERAMIC CHIP	470PF	C1511	1-124-927-11	ELECT	4.7MF
C235	1-163-005-11	CERAMIC CHIP	470PF	C1512	1-106-363-00	MYLAR	0.0068MF
C236	1-163-005-11	CERAMIC CHIP	470PF	C1513	1-163-105-00	CERAMIC CHIP	33PF
C237	1-124-902-00	ELECT	0.47MF				
C238	1-163-125-00	CERAMIC CHIP	220PF	C1514	1-106-375-12	MYLAR	0.022MF
C239	1-126-103-11	ELECT	470MF	C1515	1-102-117-00	CERAMIC	820PF
C240	1-163-018-00	CERAMIC CHIP	0.0056MF				
C241	1-163-018-00	CERAMIC CHIP	0.0056MF	<CONNECTOR>			
C242	1-163-033-00	CERAMIC CHIP	0.022MF	CN1401	1-565-838-11	PIN JACK BLOCK 2P	
C243	1-163-033-00	CERAMIC CHIP	0.022MF				
C244	1-163-033-00	CERAMIC CHIP	0.022MF	<DIODE>			
C245	1-163-033-00	CERAMIC CHIP	0.022MF	D201	8-719-929-16	DIODE HZS9.1NB3	
C1401	1-123-875-11	ELECT	10MF	D202	8-719-929-16	DIODE HZS9.1NB3	
C1402	1-126-103-11	ELECT	470MF	D205	8-719-929-08	DIODE HZS7.5NB3	
C1403	1-163-003-11	CERAMIC CHIP	330PF	D206	8-719-929-08	DIODE HZS7.5NB3	
C1404	1-106-220-00	MYLAR	0.1MF	D1401	8-719-929-08	DIODE HZS7.5NB3	
C1405	1-136-017-00	CERAMIC CHIP	0.0047MF				
C1406	1-106-220-00	MYLAR	0.1MF	D1403	8-719-929-08	DIODE HZS7.5NB3	
C1407	1-124-910-11	ELECT	47MF	D1404	8-719-929-08	DIODE HZS7.5NB3	
C1408	1-124-122-11	ELECT	100MF	D1405	8-719-929-08	DIODE HZS7.5NB3	
C1409	1-126-233-11	ELECT	22MF	D1407	8-719-929-20	DIODE HZS10NB3	
C1410	1-123-875-11	ELECT	10MF				
C1411	1-123-875-11	ELECT	10MF	D1408	8-719-929-16	DIODE HZS9.1NB3	
C1412	1-124-910-11	ELECT	47MF	D1409	8-719-929-16	DIODE HZS9.1NB3	
C1413	1-124-910-11	ELECT	47MF	D1410	8-719-929-16	DIODE HZS9.1NB3	
C1414	1-123-875-11	ELECT	10MF	D1415	8-719-929-08	DIODE HZS7.5NB3	
C1415	1-106-220-00	MYLAR	0.1MF	D1418	8-719-929-08	DIODE HZS7.5NB3	
C1416	1-106-220-00	MYLAR	0.1MF				
C1417	1-124-120-11	ELECT	220MF	D1419	8-719-929-08	DIODE HZS7.5NB3	
C1418	1-163-003-11	CERAMIC CHIP	330PF	D1420	8-719-929-08	DIODE HZS7.5NB3	
C1419	1-163-003-11	CERAMIC CHIP	330PF	D1421	8-719-929-08	DIODE HZS7.5NB3	
C1425	1-124-902-00	ELECT	0.47MF	D1422	8-719-929-08	DIODE HZS7.5NB3	
C1426	1-124-902-00	ELECT	0.47MF	D1423	8-719-929-08	DIODE HZS7.5NB3	
C1427	1-136-017-00	CERAMIC CHIP	0.0047MF				
C1428	1-136-017-00	CERAMIC CHIP	0.0047MF	D1424	8-719-929-08	DIODE HZS7.5NB3	
C1429	1-136-017-00	CERAMIC CHIP	0.0047MF	D1425	8-719-929-08	DIODE HZS7.5NB3	
C1430	1-163-003-11	CERAMIC CHIP	330PF	D1426	8-719-929-08	DIODE HZS7.5NB3	
C1431	1-126-529-11	ELECT	0.47MF	D1501	8-719-300-33	DIODE RU-3AM	
C1432	1-124-902-00	ELECT	0.47MF	D1502	8-719-911-19	DIODE 1SS119	
C1433	1-124-122-11	ELECT	100MF				
				D1503	8-719-911-19	DIODE 1SS119	
				D1504	8-719-911-19	DIODE 1SS119	
				D1505	8-719-911-19	DIODE 1SS119	
				D1506	8-719-929-79	DIODE HZS36NB4	
				D1507	8-719-911-19	DIODE 1SS119	
				D1510	8-719-911-19	DIODE 1SS119	

J1

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
<IC>							
IC201	8-759-013-17	IC TDA6200		R1401	1-216-023-00	METAL GLAZE	82 5% 1/10W
IC1401	8-752-032-27	IC CXA1114P		R1402	1-216-170-00	METAL GLAZE	68 5% 1/8W
IC1402	8-759-946-32	IC TEA2014A		R1403	1-216-089-00	METAL GLAZE	47K 5% 1/10W
IC1403	8-759-040-53	IC MC14053BCP		R1404	1-216-178-00	METAL GLAZE	150 5% 1/8W
IC1501	8-759-942-16	IC TEA2031A		R1405	1-249-429-11	CARBON	10K 5% 1/4W
<TRANSISTOR>							
Q201	8-729-271-22	TRANSISTOR 2SC2712-G		R1407	1-216-113-00	METAL GLAZE	470K 5% 1/10W
Q202	8-729-271-22	TRANSISTOR 2SC2712-G		R1408	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q1401	8-729-216-22	TRANSISTOR 2SA1162-G		R1409	1-216-041-00	METAL GLAZE	470 5% 1/10W
Q1402	8-729-271-22	TRANSISTOR 2SC2712-G		R1410	1-216-089-00	METAL GLAZE	47K 5% 1/10W
Q1403	8-729-119-78	TRANSISTOR 2SC2785-HFE		R1411	1-216-041-00	METAL GLAZE	470 5% 1/10W
Q1404	8-729-173-38	TRANSISTOR 2SA733-K		R1412	1-216-089-00	METAL GLAZE	47K 5% 1/10W
<RESISTOR>				R1413	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R201	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R1414	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R202	1-216-206-00	METAL GLAZE	2.2K 5% 1/8W	R1415	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R203	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1416	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R204	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1417	1-216-023-00	METAL GLAZE	82 5% 1/10W
R205	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R1418	1-247-738-11	CARBON	82 5% 1/2W F
R206	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1422	1-216-025-00	METAL GLAZE	100 5% 1/10W
R207	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R1423	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R208	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1424	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R209	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1425	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R210	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1426	1-216-025-00	METAL GLAZE	100 5% 1/10W
R211	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R1427	1-216-001-00	METAL GLAZE	10 5% 1/10W
R212	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1428	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R213	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1429	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R214	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1430	1-216-170-00	METAL GLAZE	68 5% 1/8W
R215	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1431	1-216-041-00	METAL GLAZE	470 5% 1/10W
R216	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R1432	1-216-041-00	METAL GLAZE	470 5% 1/10W
R217	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R1433	1-216-033-00	METAL GLAZE	220 5% 1/10W
R218	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1434	1-249-393-11	CARBON	10 5% 1/4W F
R219	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1437	1-249-429-11	CARBON	10K 5% 1/4W
R220	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1440	1-216-045-00	METAL GLAZE	680 5% 1/10W
R221	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1441	1-216-045-00	METAL GLAZE	680 5% 1/10W
R222	1-216-041-00	METAL GLAZE	470 5% 1/10W	R1442	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R223	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1443	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R224	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1444	1-216-033-00	METAL GLAZE	220 5% 1/10W
R225	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1445	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R226	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R1446	1-216-033-00	METAL GLAZE	220 5% 1/10W
R227	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1447	1-216-033-00	METAL GLAZE	220 5% 1/10W
R228	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1448	1-216-025-00	METAL GLAZE	100 5% 1/10W
R229	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1452	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R230	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R1453	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R231	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1454	1-216-180-00	METAL GLAZE	180 5% 1/8W
R232	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R1455	1-216-180-00	METAL GLAZE	180 5% 1/8W
R233	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1457	1-216-025-00	METAL GLAZE	100 5% 1/10W
R234	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R1459	1-216-025-00	METAL GLAZE	100 5% 1/10W
R240	1-216-033-00	METAL GLAZE	220 5% 1/10W	R1460	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R241	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R1461	1-216-190-00	METAL GLAZE	470 5% 1/8W
R242	1-216-091-00	METAL GLAZE	56K 5% 1/10W	R1462	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R243	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1463	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
R244	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1464	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R245	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1465	1-216-023-00	METAL GLAZE	82 5% 1/10W
R246	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1466	1-216-033-00	METAL GLAZE	220 5% 1/10W
R247	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1467	1-216-025-00	METAL GLAZE	100 5% 1/10W
R248	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1468	1-216-025-00	METAL GLAZE	100 5% 1/10W
R249	1-216-075-00	METAL GLAZE	12K 5% 1/10W	R1469	1-216-025-00	METAL GLAZE	100 5% 1/10W
R250	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R1470	1-216-025-00	METAL GLAZE	100 5% 1/10W
				R1471	1-216-023-00	METAL GLAZE	82 5% 1/10W
				R1472	1-216-023-00	METAL GLAZE	82 5% 1/10W
				R1473	1-216-023-00	METAL GLAZE	82 5% 1/10W
				R1474	1-216-113-00	METAL GLAZE	470K 5% 1/10W
				R1476	1-216-089-00	METAL GLAZE	47K 5% 1/10W
				R1477	1-216-089-00	METAL GLAZE	47K 5% 1/10W

J1

J2

IFG

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R1478	1-216-113-00	METAL GLAZE 470K 5%	1/10W	*A-1654-003-A	IFG BOARD, COMPLETE *****		
R1480	1-216-190-00	METAL GLAZE 470 5%	1/8W	*1-565-488-11	CONNECTOR, BOARD TO BOARD 12P		
R1482	1-216-178-00	METAL GLAZE 150 5%	1/8W		<CAPACITOR>		
R1483	1-216-178-00	METAL GLAZE 150 5%	1/8W	C1	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1484	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C2	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1485	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C3	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1486	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C4	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1487	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C5	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1488	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C6	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R1489	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	C7	1-124-791-11	ELECT 1MF	20% 50V
R1501	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C8	1-123-875-11	ELECT 10MF	20% 50V
R1502	1-216-083-00	METAL GLAZE 27K 5%	1/10W	C9	1-130-471-00	MYLAR 0.001MF	10% 50V
R1503	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C10	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
R1504	1-216-085-00	METAL GLAZE 33K 5%	1/10W	C11	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
R1505	1-216-081-00	METAL GLAZE 22K 5%	1/10W	C12	1-136-298-00	FILM 0.0033MF	2% 100V
R1506	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C13	1-124-477-11	ELECT 47MF	20% 16V
R1509	1-216-105-00	METAL GLAZE 220K 5%	1/10W	C14	1-124-477-11	ELECT 47MF	20% 16V
R1510	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	C15	1-124-477-11	ELECT 47MF	20% 16V
R1511	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C16	1-124-477-11	ELECT 47MF	20% 16V
R1512	1-216-073-00	METAL GLAZE 10K 5%	1/10W	C17	1-123-875-11	ELECT 10MF	20% 50V
R1513	1-216-091-00	METAL GLAZE 56K 5%	1/10W	C18	1-106-367-00	MYLAR 0.01MF	10% 400V
R1514	1-216-049-00	METAL GLAZE 1K 5%	1/10W	C19	1-106-367-00	MYLAR 0.01MF	10% 400V
R1515	1-216-117-00	METAL GLAZE 680K 5%	1/10W	C20	1-126-233-11	ELECT 22MF	20% 50V
R1516	1-216-079-00	METAL GLAZE 18K 5%	1/10W	C21	1-126-233-11	ELECT 22MF	20% 50V
R1517	1-216-033-00	METAL GLAZE 220 5%	1/10W	C22	1-106-220-00	MYLAR 0.1MF	10% 100V
R1519	1-216-101-00	METAL GLAZE 150K 5%	1/10W	C23	1-106-228-00	MYLAR 0.22MF	10% 100V
R1520	1-216-113-00	METAL GLAZE 470K 5%	1/10W	C24	1-124-963-11	ELECT 33MF	20% 16V
R1521	1-216-214-00	METAL GLAZE 4.7K 5%	1/8W	C25	1-106-375-12	MYLAR 0.022MF	10% 250V
R1556	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	C26	1-106-383-00	MYLAR 0.047MF	10% 100V
<VARIABLE RESISTOR>				C27	1-124-791-11	ELECT 1MF	20% 50V
RV1501	1-238-023-11	RES, ADJ, CARBON 470K		C28	1-163-103-00	CERAMIC CHIP 27PF	5% 50V
RV1502	1-228-994-00	RES, ADJ, CARBON 10K		C29	1-124-791-11	ELECT 1MF	20% 50V
RV1503	1-238-017-11	RES, ADJ, CARBON 22K		C30	1-124-791-11	ELECT 1MF	20% 50V
RV1504	1-238-012-11	RES, ADJ, CARBON 1K		C31	1-106-367-00	MYLAR 0.01MF	10% 400V
RV1505	1-238-023-11	RES, ADJ, CARBON 470K		C32	1-130-479-00	MYLAR 0.0047MF	5% 50V
RV1506	1-238-017-11	RES, ADJ, CARBON 22K		C33	1-163-081-00	CERAMIC CHIP 0.22MF	25V
RV1507	1-238-009-11	RES, ADJ, CARBON 220		C34	1-106-228-00	MYLAR 0.22MF	10% 100V
RV1508	1-238-016-11	RES, ADJ, CARBON 10K		C35	1-123-875-11	ELECT 10MF	20% 50V
RV1509	1-238-023-11	RES, ADJ, CARBON 470K		C36	1-163-119-00	CERAMIC CHIP 120PF	5% 50V
*****				C37	1-124-477-11	ELECT 47MF	20% 16V
*1-633-411-11	J2 BOARD	*****		C38	1-124-477-11	ELECT 47MF	20% 16V
1-537-088-21	TERMINAL BOARD, INPUT/OUTPUT			<FILTER>			
*1-560-278-21	PLUG, CONNECTOR 4P			CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC	
*1-564-517-11	PLUG, CONNECTOR 2P			CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC	
*1-564-519-11	PLUG, CONNECTOR 4P			SFT1	1-527-840-00	FILTER, CERAMIC	
<CAPACITOR>				SFT2	1-527-839-00	FILTER, CERAMIC	
C1751	1-101-005-00	CERAMIC 0.022MF	50V	<DIODE>			
C1752	1-101-005-00	CERAMIC 0.022MF	50V	D3	8-719-400-18	DIODE MA152WK	
C1755	1-102-114-00	CERAMIC 470PF	10% 50V	<IC>			
C1756	1-102-114-00	CERAMIC 470PF	10% 50V	IC1	8-759-003-90	IC TBA129	
<COIL>				IC2	8-759-003-90	IC TBA129	
L1751	1-412-240-11	INDUCTOR, WIDE BAND		IC3	8-759-030-48	IC TDA6600-2	
L1752	1-412-240-11	INDUCTOR, WIDE BAND		IC4	8-759-946-99	IC TDA2595-V7	

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

KV-X2131D
RM-689

IFG

REF.NO.	PART NO.	DESCRIPTION	REMARK
---------	----------	-------------	--------

<COIL>

L1	1-408-410-00	INDUCTOR	12UH
L2	1-408-410-00	INDUCTOR	12UH
L3	1-410-064-11	INDUCTOR	2.7MMH
L4	1-408-421-00	INDUCTOR	100UH
L5	1-408-421-00	INDUCTOR	100UH

<TRANSISTOR>

Q2	8-729-901-00	TRANSISTOR DTC124EK	
Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4	8-729-901-00	TRANSISTOR DTC124EK	

<RESISTOR>

JC8	1-216-296-00	METAL GLAZE	0	5%	1/8W
JC10	1-216-296-00	METAL GLAZE	0	5%	1/8W
R1	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2	1-216-043-00	METAL GLAZE	560	5%	1/10W
R3	1-216-043-00	METAL GLAZE	560	5%	1/10W
R5	1-216-045-00	METAL GLAZE	680	5%	1/10W
R6	1-216-043-00	METAL GLAZE	560	5%	1/10W
R7	1-216-043-00	METAL GLAZE	560	5%	1/10W
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R10	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R11	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R15	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R16	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R17	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R18	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R19	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R20	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R22	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R24	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R25	1-216-077-00	METAL GLAZE	15K	5%	1/10W

<VARIABLE RESISTOR>

RV1	1-238-016-11	RES, ADJ, CARBON 10K	
RV2	1-238-019-11	RES, ADJ, CARBON 47K	

MISCELLANEOUS

Δ 1-426-383-11	COIL, DEMAGNETIZATION
Δ 1-451-295-11	DEFLECTION YOKE (Y21PFA2)
1-452-032-00	MAGNET, DISK; 10MM ϕ
1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ
1-452-277-00	MAGNET, BMC

SPEAKER

Δ 1-575-487-11	CORD, POWER (WITH NOISE FILTER)
-----------------------	---------------------------------

V901 Δ 8-738-753-05	PICTURE TUBE (A51JXH60X)
----------------------------	--------------------------

ACCESSORIES AND PACKING MATERIALS

PART NO.	DESCRIPTION	REMARK
1-465-363-11	COMMANDER, REMOTE (RM-689)	
4-200-139-11	MANUAL, INSTRUCTION	
*4-200-172-01	CUSHION (UPPER) (ASSY)	
*4-200-173-01	CUSHION (LOWER) (ASSY)	
*4-200-174-01	INDIVIDUAL CARTON	
*4-380-340-01	BAG, PROTECTION	